This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

165

HARVARD UNIVERSITY HERBARIUM.

Per
Eng
C-7

THE GIFT OF

Asa Gray.

LIBRARY OF THE GRAY HERBARIUM
HARVARD UNIVERSITY
THE GIFT OF

[illegible]

B1

CURTIS'S
BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;
WITH SUITABLE DESCRIPTIONS;

BY

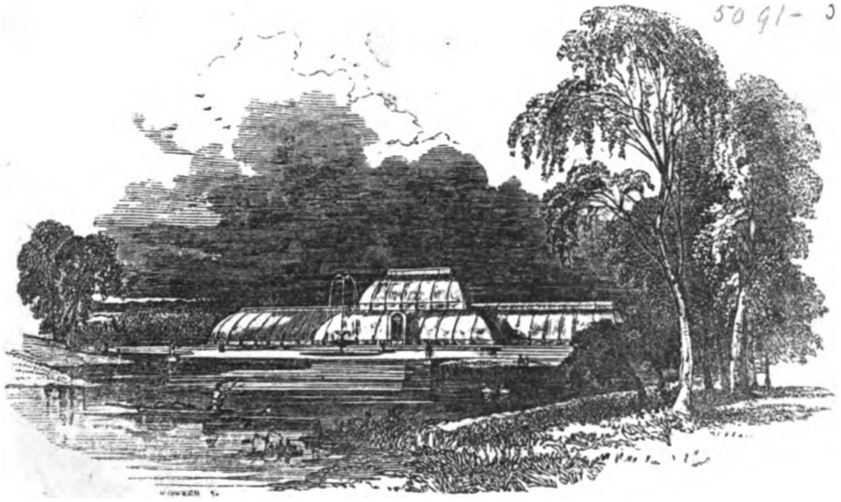
SIR WILLIAM JACKSON HOOKER, K.H., D.C.L. OXON.,

F.L.S., CORRESPONDING MEMBER OF THE ACADEMY OF SCIENCES OF THE IMPERIAL INSTITUTE
OF FRANCE, AND DIRECTOR OF THE ROYAL GARDENS OF KEW.

VOL. XV.
OF THE THIRD SERIES;

(*Or Vol. LXXXV. of the Whole Work.*)

5091-



> "E'en in the stifling bosom of the town
> A garden, in which nothing thrives, has charms
> That soothe the rich possessor; much consoled
> That here and there some sprigs of mournful Mint,
> Of Nightshade, or Valerian, grace the wall
> He cultivates."

LONDON:
LOVELL REEVE, HENRIETTA STREET, COVENT GARDEN.
1859.

5091-5156 -185

NULLA DIES SINE LINEA.

JOHN EDWARD TAYLOR, PRINTER,
LITTLE QUEEN STREET, LINCOLN'S INN FIELDS.

TO

DECIMUS BURTON, ESQ., F.R.S., F.S.A.,

ETC. ETC. ETC.,

THE DISTINGUISHED ARCHITECT OF THE NOBLE PALM-HOUSE AT KEW,

WHERE FLOURISH MANY OF THE PLANTS HERE REPRESENTED,

AND WHO IS NOW PREPARING

A CONSERVATORY IN THE SAME GROUNDS

FOR THE

CULTIVATION OF TREES AND SHRUBS OF TEMPERATE CLIMATES,

The present Volume is Dedicated

BY

HIS FAITHFULLY ATTACHED FRIEND

THE AUTHOR.

ROYAL GARDENS, KEW,
December 1, 1859.

5091

TAB. 5091.

SPATHODEA CAMPANULATA.

Bell-flowered Spathodea.

Nat. Ord. BEGONIACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. *Calyx* spathaceus, antice fissus, postice integerrimus vel dentatus. *Corolla* hypogyna, subinfundibuliformis, limbi quinquelobi bilabiati lobis subæqualibus. *Stamina* corollæ tubo inserta, quatuor didynama, cum quinto rudimentario, rarissime æque fertili; *antheræ* biloculares, loculis divaricato-patentibus. *Ovarium* biloculare, ovulis ad dissepimenti margines utrinque plurimis, horizontalibus, anatropis. *Stylus* simplex; *stigma* bilamellatum. *Capsula* elongato-siliquæformis, bilocularis, bivalvis, valvis dissepimento marginibus utrinque seminifero contrariis. *Semina* plurima, transversa, compressa, utrinque in alam membranaceam expansa. *Embryonis* exalbuminosi orthotropi radicula centrifuga.—Frutices *vel* arbores, *inter tropicos totius orbis crescentes;* foliis *oppositis vel rarius alternis, conjugatis vel impari-pinnatis, interdum simplicibus;* floribus *subpaniculatis, aurantiaceis, flavis vel violaceis. Endl.*

SPATHODEA *campanulata;* arborea glabra, foliis oppositis impari-pinnatis quadrijugis, foliolis ovato-lanceolatis acuminatis integerrimis basi supra glandulis 2–3 junioribus inferne subsericeis, racemis corymbosis terminalibus, calyce magno spathaceo compresso arcuato extus velutino lineato, corolla amplissima aurantiaca late campanulata sursum curvata subtus valde ventricosa, limbi subæqualis lobis late ovatis obtusis plicatis.

SPATHODEA campanulata. *Beauv. Fl. d'Oware et de Benin, v.* 1. *p.* 47. *t.* 29. *De Cand. Prodr. v.* 9. *p.* 208. *Benth. in Niger Flora, p.* 461. *Walp. Annal. Bot. Syst. v.* 3. *p.* 89.

SPATHODEA tulipifera. *G. Don, Gard. Dict. v.* 4. *p.* 223. *De Cand. Prodr. v.* 9. *p.* 207.

BIGNONIA tulipifera. *Schum. et Thonn. Beskr. p.* 273.

Palisot de Beauvois's figure and description are alike inaccurate of this magnificent flowering tree, and may be accounted for, as Mr. Bentham observes, by the fact that the characters of his species described are generally drawn up from mere fragments of specimens, and that his drawings, made on the spot, of this and other plants, were destroyed, as M. de Beauvois himself tells us;—"la proie des flammes que les soi-disant philanthropes de Paris ont allumées à St. Domingue." In the figure of the 'Flore d'Oware' the leaves are made to appear alternate, and the flowers are reversed upon the rachis and give no idea of their size and

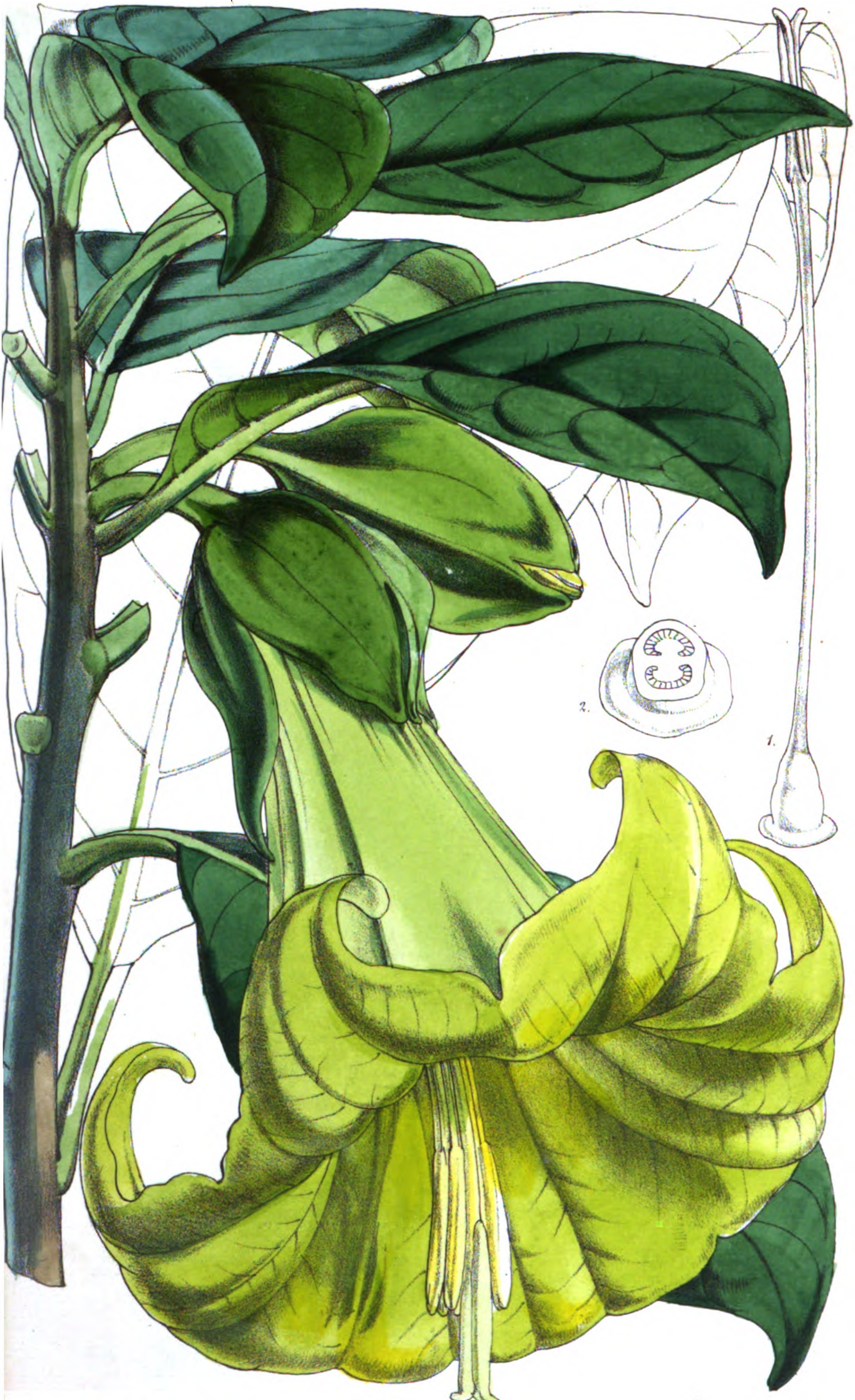
JANUARY 1ST, 1859.

beauty. Schumacher's description of his *Bignonia tulipifera* proves it to be the same plant as ours, and he speaks correctly of the flowers, "as large as the largest tulips." It is the misfortune of this plant that it does not bear its blossoms until the tree has attained a considerable size, when they are difficult to be seen on account of their distance from the spectator, and, in the present instance, the necessarily crowded state of our great stove, where it has perfected its blossoms. It was almost by an accident that they were observed at all. The species is a native of western tropical Africa. M. de Beauvois found it at Oware. Mr. Osborne, of the Fulham Nursery, raised it from seeds sent to him from Ashantee (and to him we are indebted for our plant). Schumacher found it in Guinea, and I possess fine specimens gathered by Mr. Ansell, who was attached to the Niger Expedition under the command of Captain Trotter, collected on Stirling hills, at the confluence of the river, and equally good ones gathered by the late Dr. Irving at Abeakouta.

DESCR. A *tree*, said to attain a good size in its native country, thirty feet high in our stove, much branched above. *Leaves* opposite, pinnate, dark green, paler and somewhat silky beneath only in the young state, firm and subcoriaceous, a foot to a foot and a half long, impari-pinnate. *Leaflets* about four pairs (exclusive of the terminal one), ovato-lanceolate, acute, quite entire, penninerved, having at the base, on the upper side, and just above the short petiolule, two to three fleshy subglobose *glands*. *Raceme* terminal, corymbose, large, spreading, consisting of eight to ten rather long and stout-pedicelled, very large, showy *flowers*. The curious *calyx* is quite like a spatha, two and a half inches long, splitting open on one side for the emission of the corolla, and falcately recurved, leaning, as it were, back from the corolla: its texture is thick and coriaceous, externally velvety, and of a dingy-green colour, striated with raised lines, red within. *Corolla* at least four inches long, and as much broad, of a rich orange-red colour, paler within the tube, in form broad-campanulate, yet curved upwards, the *tube* suddenly contracted at the very base, where it is attached to the calyx; singularly ventricose on its under side, striated; the *faux* very broad and open; the *limb* spreading, nearly equal, of five, broad, ovate, plicate, and somewhat undulated segments. *Stamens* four, included within the broad tube, spreading, two a little taller than the other two. *Anthers* of two divergent, linear-oblong, dark-brown, linear cells, opening longitudinally. *Ovary* ovate, sunk into a large fleshy *gland* or ring. *Style* as long as the stamens. *Stigma* two-lipped.

Fig. 1. Pistil and hypogynous gland or ring. 2. Transverse section of ovary. 3. One of the anthers:—*magnified*.

5092



y.del et lith.

Vincent Brooks, Imp

TAB. 5092.

JUANULLOA? EXIMIA.

Large green-flowered Juanulloa.

Nat. Ord. SOLANEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx amplus, coloratus, inflatus, ovatus vel ovato-tubulosus, subcarnosus vel membranaceus, 5-divisus; laciniis plus minus longis, erectis, acutis vel acutiusculis. *Corolla* subcarnosa vel membranacea, tubulosa, calyce longior, fauce paulo contracta, tubo plus minus inflato, limbo brevi, 5-partito, lobis ovatis obtusiusculis vel rotundatis, æstivatione imbricata. *Stamina* 5, tubo breviora, basi corollæ tubi inserta, erecta. *Filamenta* filiformia, basi villosa. *Antheræ* lineares, sagittatæ, intus longitudinaliter dehiscentes. *Ovarium* conicum, basi disco annulari magno 5-lobo carnoso cinctum, biloculare, placentis dissepimento adnatis multi-ovulatis. *Stylus* filiformis, tubo breviore, apice crassescens. *Stigma* oblongum, apice bilobum. *Bacca* ovato-globosa, magni cerasi magnitudinis, bilocularis, calyce vestita. *Semina* plurima, oblongo-reniformia, in pulpa nidulantia. *Embryo* ignotus.—Frutices *ex America calidiori. De Cand.*

JUANULLOA *eximia;* corollæ amplissimæ viridis tubo campanulato infundibuliformi longitudinaliter angulato, limbi laciniis latis longe acuminatis revolutis, staminibus approximatis exsertis.

BRUGMANSIA eximia. *Hort.*

We are indebted to the Messrs. Henderson, of Pine-apple Place Nursery, for this remarkable plant, which they received from the Continent under the name of *Brugmansia eximia.* In its foliage it presented nothing of the appearance of a *Brugmansia,* or of any of the arborescent species of *Datura;* and our astonishment was great when it produced the flower here represented, in the summer of 1858, to see a corolla having a good deal the form of, and excelling in size any, *Datura* or *Brugmansia,* yet with a calyx of a very different character, and much more like that of a *Juanulloa,* which the foliage and general habit of the shrub also a good deal resemble: it is also very different from any described *Solandra,* save that it has singularly green flowers like *Solandra viridiflora.* May it not be a hybrid? But if so, we cannot guess what are the respective parents. It is to be lamented that such a noble-sized corolla should have no brilliant colour to recommend it.

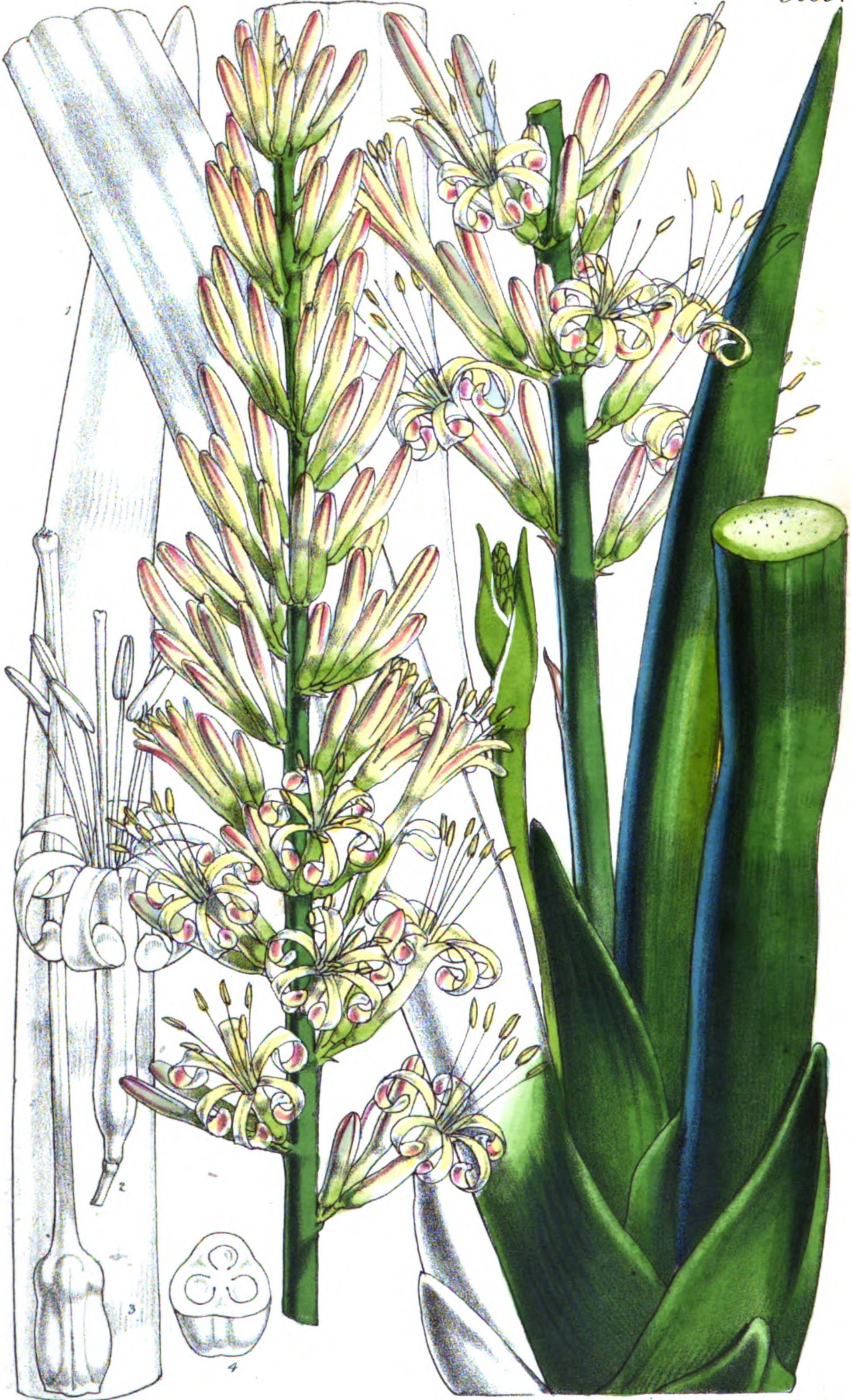
JANUARY 1ST, 1859.

Descr. This very peculiar plant, whether it be in its natural state, or metamorphosed by hybridization, has in its mode of growth and foliage more of a *Juanulloa* than of a *Brugmansia* or any frutescent *Datura*, and more still of a *Solandra*, than which it forms a much more compact bush; it is moderately branched. *Branches* ternate, woody. *Leaves* large, oval, firm, subcoriaceous, glossy, shortly acuminate, quite entire, tapering into a stout *petiole* about half an inch long. *Flowers*, in our plant, lateral (not strictly axillary), in pairs, very large, drooping. *Peduncle* scarcely an inch long, stout, curved downwards. *Calyx* broad-ovate and an inch and three-quarters long and as much broad, of a thick, subcoriaceous texture, very broad-ovate, five-valved and five-angled, in bud sharply so at the sinus; æstivation valvate, bursting irregularly into five acute lobes of unequal lengths, sometimes two or more continuing adherent at the margin (as in *Juanulloa*). *Corolla* nearly six inches long, and quite as broad across the limb, if allowance be made for the recurvation of its lobes; the form is between infundibuliform and campanulate; the colour quite green, but with a peculiar tinge of yellow upon it; the tube has five longitudinal angles, and, alternating with these, five lesser ones; the mouth spreads widely; the limb has five broad but sharply acuminate, quite revolute *lobes*, each with three impressed lines or longitudinal plaits. *Stamens* five. *Filaments* erect and approximate, a little longer than the tube, so that the linear *anthers*, an inch long, are quite exserted. *Ovary* broad-ovate, surrounded by a fleshy ring. *Style* filiform, quite as long as the filaments of the stamens. *Stigma* an inch long, incrassated, bifid, the apices of the lobes spreading.

Fig. 1. Pistil and fleshy ring. 2. Ovary, cut through transversely:—*magnified.*

5093

5093.



W Fitch del. et lith

Vincent Brooks. Imp

TAB. 5093.

SANSEVIERA CYLINDRICA.

Ifé. Terete-leaved Bowstring Hemp.

Nat. Ord. ASPARAGINEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Perigonium corollaceum, tubulosum, rectiusculum, usque ad medium 6-fidum, deciduum; laciniis subspathulato-linearibus, obtusis, uninerviis, æqualibus, patentissimis (reflexis, *Gawl.*). *Stamina* 6, fauce perigonii inserta, exserta, patula (patentissima, *Gawl.*). *Filamenta* filiformia. *Antheræ* biloculares, lineari-oblongæ, apice bilobæ, basi bifidæ, dorso medio affixæ, introrsæ. *Ovarium* liberum, sessile, oblongum, trigonum? (trilobum, *Roxb.*), triloculare; *ovula* in loculis solitaria, sessilia, adscendentia, anatropa. *Columna* stylina terminalis, filiformis, erecta, stamina superans. *Stigma* capitatum, integrum. *Baccæ* 1–3, leviter unitæ, singulæ, globosæ, carnosæ, monospermæ. *Semen* globosum. *Embryo* in basi albuminis ad latus exterius locatus.—Plantæ *acaules, perennantes, stoloniferæ.* Rhizoma *crassum, repens.* Folia *radicalia pluri- vel bi-faria, lanceolata, crassa atque dura, carne fibrosa, sæpe fasciata, basi vaginantia.* Scapus *e centro foliorum prodiens, bracteatus, simplex, apice racemoso-multiflorus.* Flores *per* 4–6 *fasciculato-congesti, bracteolati, viridulo-albi vel viridulo-flavidi;* pedicellis *supra medium articulatis.* Perigonium *basi in pedicellum attenuatum. Kunth.*

SANSEVIERA *cylindrica;* foliis teretibus acuminatis solidis, scapo radicali, racemo composito elongato acuminato, sepalis linearibus inferne in tubum approximatis demum apice revolutis, staminibus longe exsertis.

SANSEVIERA cylindrica. *Bojer, Hort. Maurit. p.* 349 (*name only*).

SANSEVIERA Angolensis. *Welwitsch, MSS.*

About three years since there were received at the Foreign Office, and transferred to the Admiralty, samples of a peculiar fibre and cordage under the name of *Ifé*, said to be derived from a new plant at the Portuguese settlement, Angola, west coast of Africa. These were accompanied by some apparently living plants, which were placed in the cellars of the Foreign Office, and by the kindness of our valued friend, G. Lenox-Coningham, Esq., forwarded to Kew, where they soon recovered, and have since flowered. The habit of the plant was that of *Sanseviera*, but the leaves very dark-coloured, and quite terete and solid in the interior, very unlike any known species of that genus. My duties at the Paris Exhibition of 1858 led me to the careful in-

JANUARY 1ST, 1859.

vestigation of the vegetable products, and I was there agreeably surprised to find most extensive samples, in the Portuguese department, of the raw material, fibre, and manufactured articles, ship-cables, rope, beautiful cordage, etc., of the same material, and amongst 'The Products of Angola,' it is thus stated in my 'Report:'—"*Fibre,* marked, from *Sanseviera Angolensis,* this latter being a MS. name of Dr. Wellwitsch for a remarkable species of *Sanseviera,* with long, stout, terete leaves, which is in cultivation at Kew. The cordage and rope made of this plant appear to the eye of excellent quality, whatever experience may prove them to be."—Experiments recently made with this cordage have shown it to be the strongest and best fitted for deep-sea sounding of any fibre known; indeed this is the less surprising, seeing that other species of *Sanseviera* (the well-known *S. Zeylanica* and *Guineensis,* for example) are cultivated in almost all tropical countries on account of the strength and durability of the fibre, under the name of *Bowstring Hemp.*

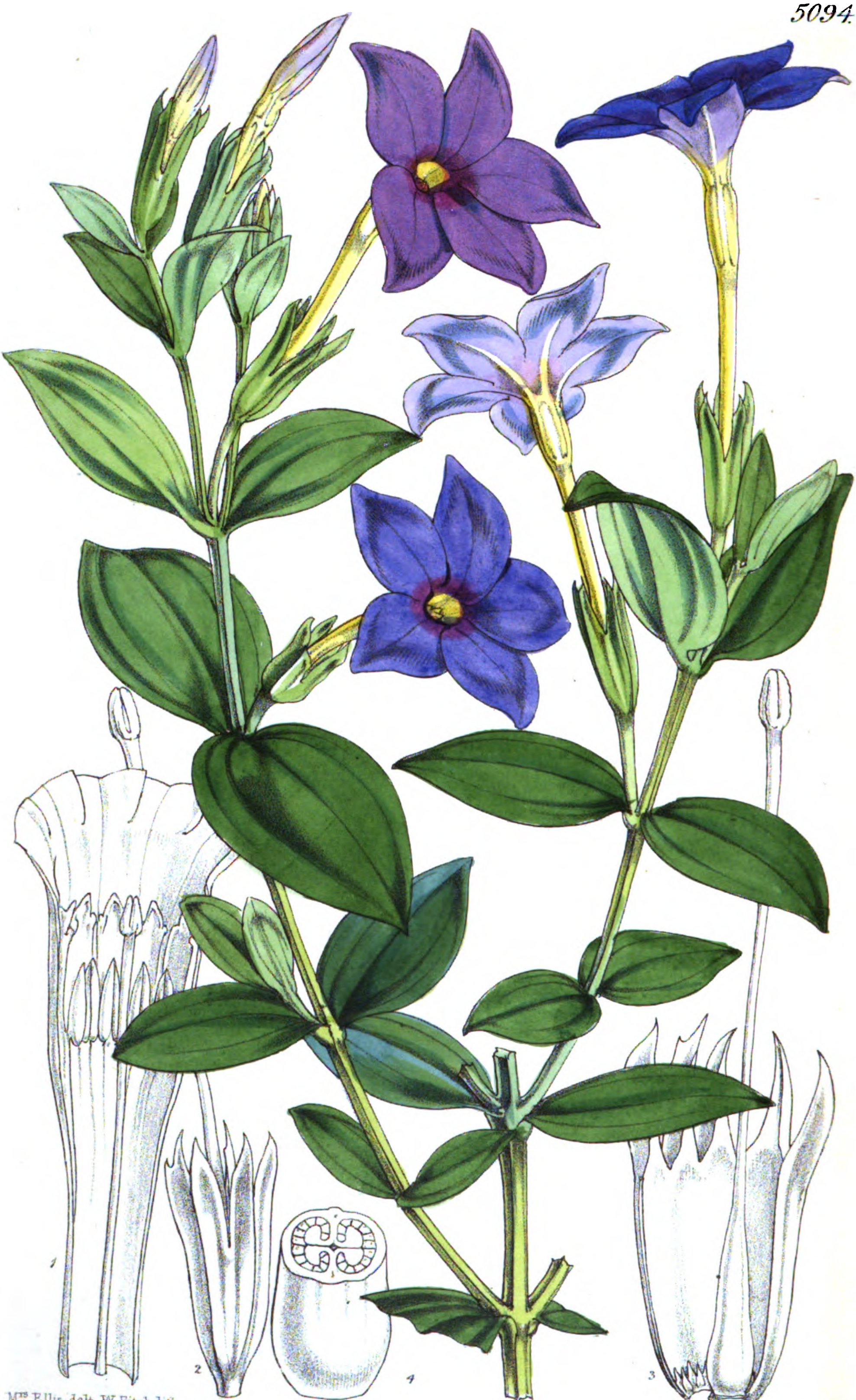
Our Gardens having lately received from Mauritius, through Mr. Duncan, living roots of *S. cylindrica* of Bojer, in the 'Hortus Mauritianus,' without note or description, I have been agreeably surprised to find that the two plants are identical. It is indeed stated that the *S. cylindrica* is a native of Zanzibar, on the east coast of Africa, and is only known in cultivation in the Botanic Gardens of Mauritius. I have no means then of ascertaining whether this curious plant has been introduced by the Portuguese from their settlements on the east coast of Africa to Angola on the west, or *vice versâ;* or whether, as appears to be the case with other plants, it is an aboriginal on both sides of that great continent, and more or less, possibly, of the interior. Dr. Livingstone told me he was very familiar with the *Ifé* in several districts of the western interior of Africa towards Angola. It flowered with us for the first time in August, 1858, and though the blossoms have little to recommend them, the plant deserves a place in all collections where the useful products of vegetables are appreciated, and many a piece of waste land in our tropical colonies might be profitably employed in the cultivation of it for its fibre. It grows rapidly, and requires almost no care.

DESCR. Perennial. *Roots* coarse and fleshy. Plants throwing out *runners* from the base and speedily sending up new shoots. *Leaves* all radical, tufted, few, not more than eight or ten, in a tuft, and not so many unless the short, external ones, which almost resemble scales and are more or less furrowed on the upper side, be reckoned; the rest vary in length, from six to eight inches to three feet, erect or erecto-patent, quite terete, solid within, occupied by firm, fleshy, cellular matter and copious fibre, of dark-green colour, externally sometimes a little glaucous, and not unfrequently banded transversely with paler lines, acuminated, a little compressed at its apex, now and then longitudinally furrowed with three or four shallow lines. *Scape,* below the flowers, eight to ten inches or more long, shorter than the leaves. *Raceme* a foot or more in length, tapering upwards, having fascicles of numerous flowers all along the rachis. *Bracts* small, very deciduous. *Perianth* of six, narrow-linear, very long, cream-white *sepals,* tinged with pink; rather more than the lower half of them is erect and approximate, so as to form a tube, but eventually separating, and soon deciduous; the rest are revolute. *Stamens* very much exserted, twice as long as the tube of the perianth. *Filaments* slender. *Anthers* linear, pale-yellow. *Ovary* oblong, trigonous, three-celled. *Cells* one-seeded. *Style* filiform, longer than the stamens. *Stigma* capitate, three-lobed.

Fig. 1. Apex of one of the larger leaves. 2. Flower. 3. Pistil. 4. Ovary cut through transversely :—*magnified.*

5094

5094.



Mrs Ellis delt. W. Fitch lith.

Vincent Brooks Imp.

TAB. 5094.

TACHIADENUS CARINATUS.

Keeled Tachiadenus.

Nat. Ord. GENTIANEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx 5-fidus v. 5-partitus; segmentis dorso carinatis v. alatis; valvaribus planiusculis, acuminatis. *Corolla* hypocraterimorpha, nuda, decidua; tubo tenui, apice in faucem anguste campanulatam ampliato, æquali; limbo expanso, 5-partito; lobis paulum supra-incumbentibus. *Stamina* 5, fauce corollæ inserta; *filamentis* læviusculis, æqualibus. *Antheræ* erectæ, immutatæ, neque (?) apiculatæ. *Ovarium* annulo basilari continuo glanduloso cinctum, valvulis parum introflexis, subuniloculare; *ovulis* ipsarum margine intus discreto quaternis seriebus insertis. *Stylus* distinctus, persistens; *stigmate* indiviso, capitulato, ovoideo. *Capsula* bivalvis, septicida, subunilocularis; placentis margine valvarum intus discreto insertis. *Semina* placentis immersa.—Suffrutices *v.* herbæ *Madagascarienses; inflorescentia terminali;* floribus *purpureis* (*albis*, Griseb.); tubo corollæ *elongato, gracillimo. Griseb. in De Cand.*

TACHIADENUS *carinatus;* caule suffruticoso tetragono, foliis ovalibus sessilibus trinerviis, cyma terminali bis dichotoma, calycis quinquefidi alis obverse semi-lanceolatis lobis linearibus, corollæ tubo biunciali apice ventricoso lobos late ovatos acutiusculos plus duplo superante, genitalibus inclusis.

TACHIADENUS carinatus. *Grisebach, Gent. p.* 200. *De Cand. Prodr. v.* 9. *p.* 81.

LISIANTHUS carinatus. *Lam. Dict. v.* 2. *p.* 258. *t.* 107. *f.* 2. *Willd. Sp. Pl. v.* 1. *p.* 829.

Native of Madagascar, and probably common enough there (as we have received native specimens from thence, from the late Professor Bojer, from Dr. Lyall, and also from M. Bouton); yet when one knows the beauty of this plant and the difficulty of obtaining any plants from that fertile region, one cannot be too thankful to the Rev. William Ellis* for having introduced this and several other Madagascar plants, of great rarity and interest, to our stoves, through his energy and great love of plants. Beautiful as are European species of the well-known *Gentian* family, especially in the Alpine regions, the most lovely of them have their representatives in tropical countries, in the charming species of *Lisianthus* in South America, and in those of *Tachiadanthus* in Madagascar. A clever drawing by Mrs. Ellis (from which our plate is copied), accompanied by a recent flowering specimen, was sent from the garden at Hoddesdon in October, 1858, raised by Mr. Ellis from seeds brought home with him. The five species of this genus hitherto described by authors, have been considered to have white flowers, but this was only inferred from the withered corollas in dried specimens. They are probably all purple or blue-purple, and of a peculiar rich tint not easily expressed by art.

---

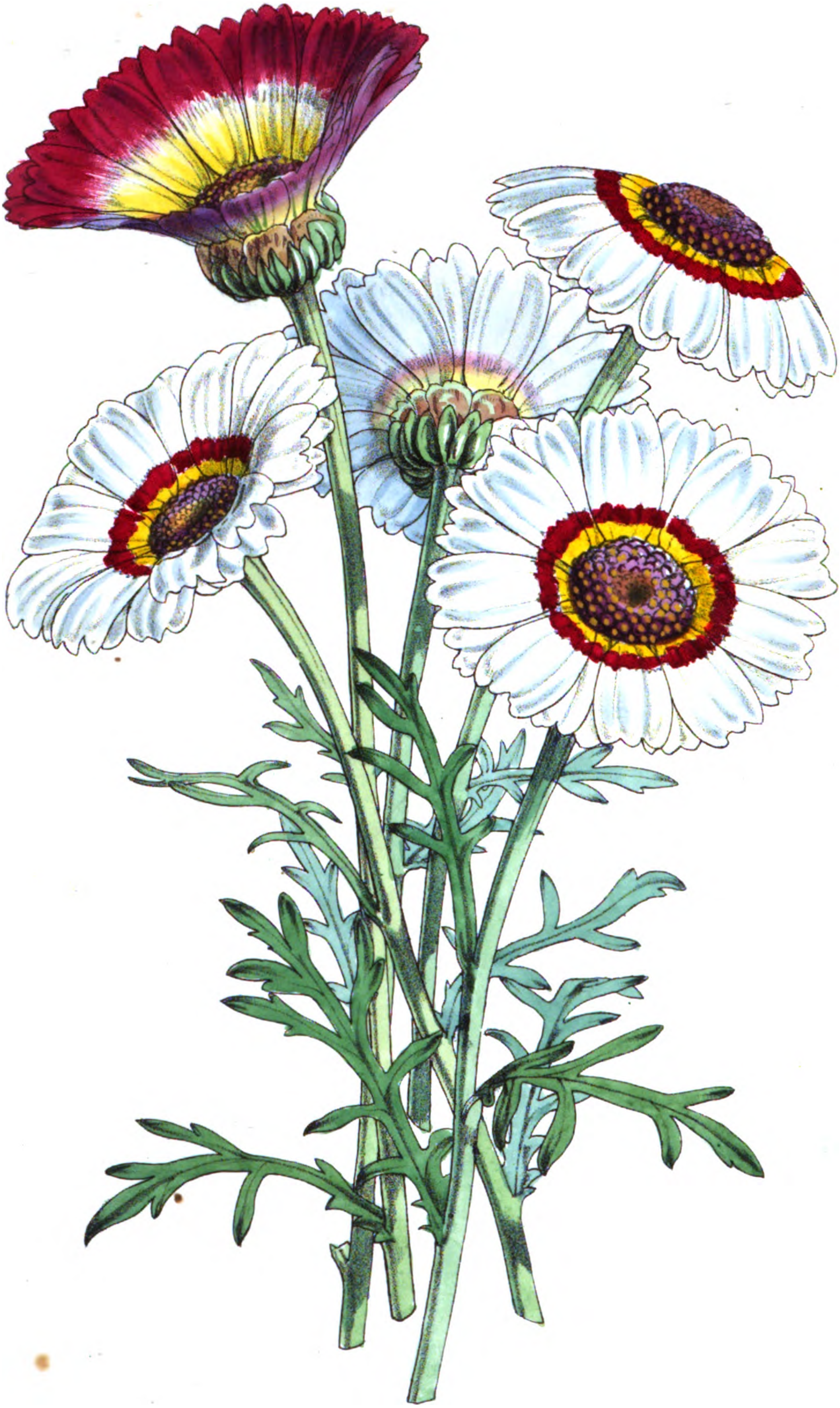
* Author, some years ago, of 'Polynesian Researches,' and more recently of 'Three Missionary Visits to Madagascar, in 1853, 1854, and 1856,' published by Murray, a work full of the deepest interest to the philanthropist and to the lover of natural history, clearly proving that an attention to the works of nature by no means detracts from his missionary usefulness. We owe to him the introduction of two species of the wonderful *Lace-leaf* to our stoves; both figured in the present work.

JANUARY 1ST, 1859.

DESCR. A low, suffruticose *plant;* that is, woody below, all the leafy and flowering branches being herbaceous, and these are tetragonous, glabrous, as in the whole plant, dichotomously branched. *Leaves* in remote, opposite pairs, one to one and a half inches long, oval, acute, three- to five-nerved, spreading horizontally. *Cyme* terminal, generally twice dichotomous, and near to these is also an axillary pair of flowers. *Pedicel* shorter than the leaf. *Calyx* oblong, with five linear, subulate, carinated lobes, from the back of each of which a winged angle extends to the base of the calyx. *Corolla* hypocrateriform, with a very long, slender, white tube, two to three inches long, a little enlarged upwards; *limb* spreading horizontally, rich purple, of five imbricating, broad-ovate, acute *lobes;* in the *faux* are four, short, ovate, acute *teeth,* alternating with the segments of the corolla, which have been overlooked by authors who have seen only dried specimens. *Stamens* inserted at the base of the inflated portion of the tube, quite included; *filaments* short. *Anthers* sagittate, acute, apiculate. *Ovary* subfusiform, surrounded by a ring of small, scale-like glands. *Style* filiform, shorter than the tube of the corolla. *Stigma* ovate, bipartite, lobes erect.

Fig. 1. Tube of the corolla laid open, showing the stamens, style, and stigma, and the scales in the faux. 2. Calyx with pistil. 3. Calyx laid open, showing the pistil and glandular ring. 4. Ovary cut through transversely:—*magnified.*

5095



W Fitch del. et lith.

Vincent Brooks, Imp.

TAB. 5095.

CHRYSANTHEMUM CARINATUM; var. *pictum*.

Keeled Chrysanthemum: painted var.

Nat. Ord. COMPOSITÆ.—SYNGENESIA SUPERFLUA.

Gen. Char. CHRYSANTHEMUM, *De Cand.*—*Capitulum* multiflorum, heterogamum; *floribus radii* uniseriatis, ligulatis, fœmineis, rarissime nullis; *disci* tubulosis, hermaphroditis. *Involucri* campanulati; *squamæ* imbricatæ, margine scariosæ. *Receptaculum* nudum. *Corollæ radii* ligulatæ, *disci* tubulosæ; *tubo* tereti v. obcompresso, bialato; *limbo* quadri- v. quinque-dentato. *Antheræ* ecaudatæ. *Stigmata* exappendiculata. *Achenia radii* triquetra v. trialata, angulis aliave duabus lateralibus, tertia introrsa; *disci* ala brevi introrsum exserta. *Pappus* nullus v. coroniformis.—Herbæ *v.* frutices *per regiones temperatas veteris orbis dispersi;* foliis *alternis, habitu vario. Endl.*

CHRYSANTHEMUM (§ Ismelia) *carinatum;* herbaceum glabrum, caule erecto ramoso diffuso, foliis bipinnati-partitis carnosis, lobis linearibus apice dentatis acutis, ramis apice nudis monocephalis, involucri squamis carinatis. *De Cand.*

CHRYSANTHEMUM carinatum. *Schousb. Plant. Maroc. p.* 198. *t.* 6. *Willd. Sp. Pl. v.* 3. *p.* 2146. *De Cand. Prodr. v.* 3. *p.* 65. *Spreng. Syst. Veget. v.* 3. *p.* 583.

CHRYSANTHEMUM tricolor. *Andr. Bot. Rep. v.* 2. *p.* 109.

ISMELIA versicolor. *Cass. in Dict. Sc. Nat. v.* 41. *p.* 40.

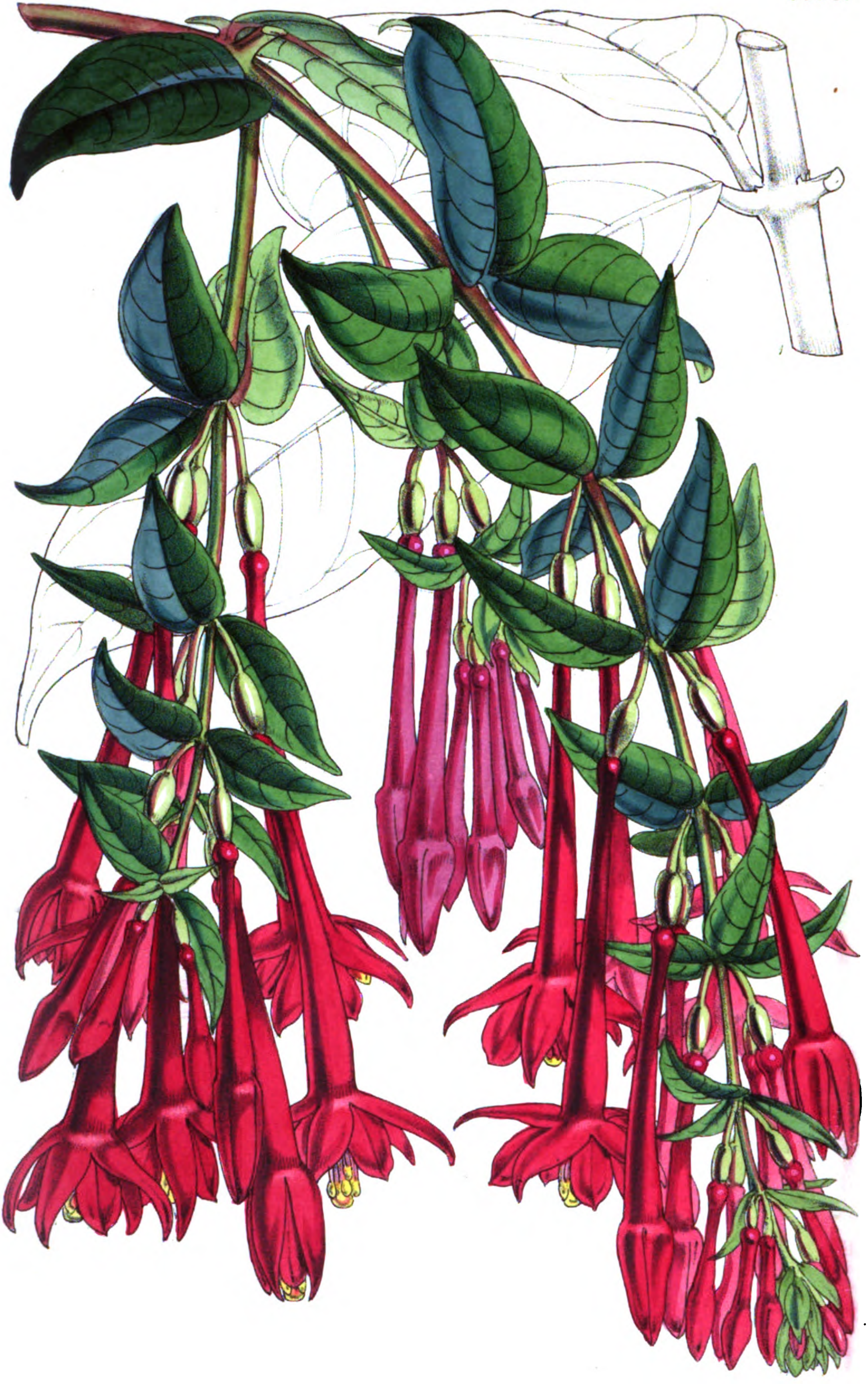
Var. *pictum;* radii ligulis bi-triseriatis colore albo, luteo rubroque varie pictis. (TAB. NOSTR. 5095.)

The ordinary form of this plant is given at our Tab. 508 (in a very early volume of the 'Botanical Magazine'), soon after the seeds were sent by M. Broussonet from the coast of Barbary to Mr. Aiton, at the Royal Gardens of Kew, almost sixty years ago. It has proved to be a hardy annual; and, even in its original state, on account of the large size of the flowers, the dark-purple eye, and the white rays, yellow at the base, it was spoken of by Mr. Curtis as "the beautiful *Chrysanthemum;*" and he gave it the name of *C. tricolor*, without being aware that it was previously described by Schousboe, under that of *C. carinatum*, so called on account of the remarkable green, fleshy keel at the

JANUARY 1ST, 1859.

back of each membranaceous scale of the involucre. Cassini constituted of this a new genus, *Ismelia*, on very slight grounds, and then very unnecessarily changed the specific appellation to the no less appropriate one of *versicolor*. Curtis and others had observed that the rays of the corolla were sometimes wholly yellow. Mr. William Thompson, of Ipswich, has sent to us during the summer of 1858 the singularly beautiful varieties here figured, which were raised by Mr. K. Burridge, Lexden Road, Colchester. We have seldom seen a richer combination of colour than is exhibited in these flowers; and if the seed is found to continue constant to its parent, no flower-border ought to be without this variety.

5096



W Fitch, delt et lith.

Vincent Brooks, Imp.

TAB. 5096.

FUCHSIA SIMPLICICAULIS.

Slightly-branched Fuchsia.

Nat. Ord. ONAGRARIEÆ.—OCTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4082.)

FUCHSIA (§ Longifloræ) *simplicicaulis;* parce ramosa glabra, ramis floralibus elongatis pendentibus, foliis 3–4-verticillatis lanceolatis seu ovato-lanceolatis acuminatis brevi-petiolatis integerrimis subnitidis subtus pallidis, racemis foliosis, floribus ternis quaternisve roseo-coccineis, tubo elongato infundibuliformi basi inflato-gibbosa, sepalis lanceolatis petala ovata acuta coccinea superantibus.

FUCHSIA simplicicaulis. *Ruiz et Pav. Fl. Chil. et Per. v.* 4. *p.* 89. *t.* 322 *a. De Candolle, Prodr. v.* 3. *p.* 39.

The genus *Fuchsia* includes a considerable number of species, but the difficulty of naming them correctly is, beyond anything, great; and this difficulty arises in part from the liability of these plants to vary much in their inflorescence, size, and the shape of the flowers, and in part from brief and imperfect descriptions. The present species is one of the many beautiful Peruvian plants new to our collections, which Mr. William Lobb sent to his employers, Messrs. Veitch and Son, of the Nurseries at Exeter and Chelsea, and which in many respects corresponds with the *F. simplicicaulis* of Ruiz and Pavon; the flowers quite correspond in size and shape, and the whorl of flowers is subtended by a corresponding whorl of large foliaceous bracteæ, or small leaves; but in Ruiz and Pavon's plant the leaves and the bracteas are all lanceolate, and even rather narrow-lanceolate, and the whorls are figured and described as always quaternate, whereas in our plant the leaves and bracts are ternate, and rather ovate than lanceolate, and the latter close over the pedicels so as to form a cup-shaped involucre. Some of our native dried specimens, indeed, sufficiently accord with Ruiz and Pavon's plant; but others seem gradually to pass into the *F. venusta* of Humboldt and

FEBRUARY 1ST, 1859.

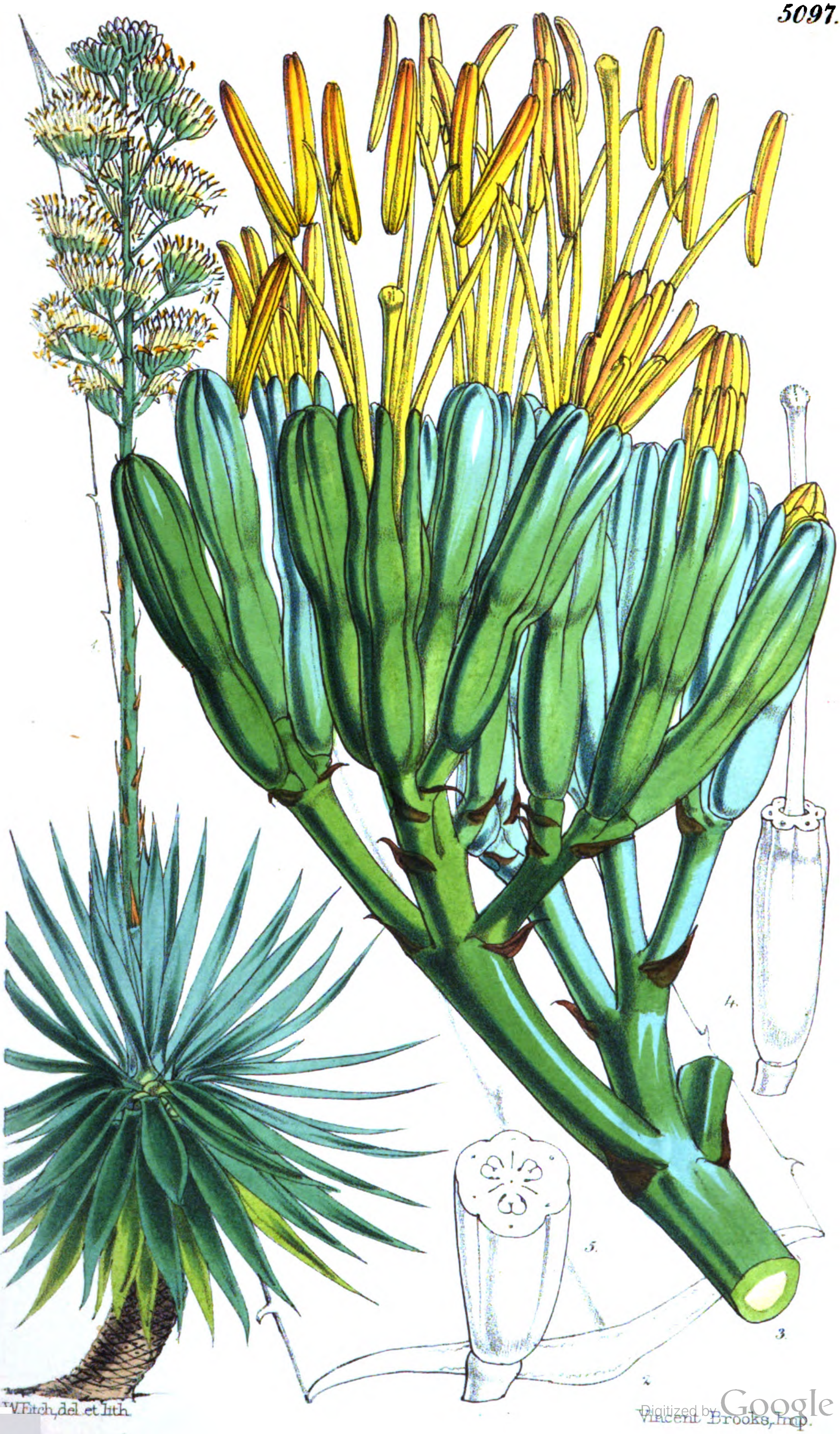
Kunth. The flowering plant here figured was communicated from the Chelsea Nursery, where it was in great beauty in October, 1858.

DESCR. *Plant* moderately branched, and indeed Ruiz and Pavon's figure represents it so (spite of the specific name), and even with verticillate branches, as might be expected to occur; glabrous, as is the whole plant. *Leaves* ternate (quaternate, *R. and P.*) on the main stem and branches, four to five inches long, much smaller upon the pendulous, elongated, flowering branches, where they become bracteiform, but spreading; their form is ovate, approaching to lanceolate, a little polished above, entire, on very short petioles, those of the bracts sessile. *Flowers* large, handsome, numerous, rose-scarlet, one in the axil of each floral leaf or bractea, pendent. *Pedicels* short. *Ovary* oval. *Tube of the calyx* long, infundibuliform; the *segments* spreading, four, lanceolate. *Petals* ovate, acute (red), shorter than the sepals. *Stamens* exserted, but moderately so.

Fig. 1. Leaves from the lower part of the plant, *nat. size.*

5097

5097.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5097.

AGAVE JACQUINIANA.

Jacquin's Agave.

Nat. Ord. AMARYLLIDEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4934.)

AGAVE *Jacquiniana;* caulescens, foliis lineari-lanceolatis acuminatis crassiusculis remote dentato-spinosis, spinis curvatis, scapo 10–12-pedali bracteato, florum fasciculis densis, perianthii viridis tubo (cum ovario adnato) tereti-oblongo 6-sulcato, limbi laciniis lineari-oblongis erectis in tubum subconniventibus canaliculatis obtusis, filamentis sepala plus quam duplo excedentibus stylum æquantibus, capsula urceolata obtusa trigona, panicula demum sobolifera.

AGAVE Jacquiniana. *Schultes, Syst. Veget.* 7. *p.* 727. *Kunth, En. Plant. v.* 5. *p.* 827.

AGAVE lurida. *Jacq. Coll. v.* 4. *p.* 94. *t.* 1. (*excl. syn.*) *Salm-Dyck, Hort.* 1834, *p.* 302.

The true *Agave lurida* of Hortus Kewensis, ed. 1. v. 1. p. 472, and ed. 2. v. 2. p. 302, is figured and described by Mr. Gawler (Bot. Mag. t. 1522) from the original Kew plant, which has since died. This is the *Agave Vera-Cruz* of Miller, Gard. Dict. ed. 8. n. 7; and Mr. Gawler has accurately pointed out the differences between this plant and the *Agave lurida* of Jacquin's 'Collectanea Botanica,' v. 4. p. 92. t. 1. In the original *Agave lurida* the flowers are lax and distant, twice the size of those of Jacquin's *Agave;* the tube (with the adnate ovary) is almost elongato-cylindrical, constricted above the base, longer than the sepals, which are broad-lanceolate, acuminate, concave, and spreading; the filaments of the stamens are quite erect, and green as well as the anthers. Jacquin's *Agave* has densely crowded flowers, the ovary six-furrowed, shorter than the sepals, which latter are quite erect and almost connivent, the stamens are spreading and yellow, and the peduncles are soboliferous or viviparous. About ten or twelve years since, we received an

FEBRUARY 1ST, 1859.

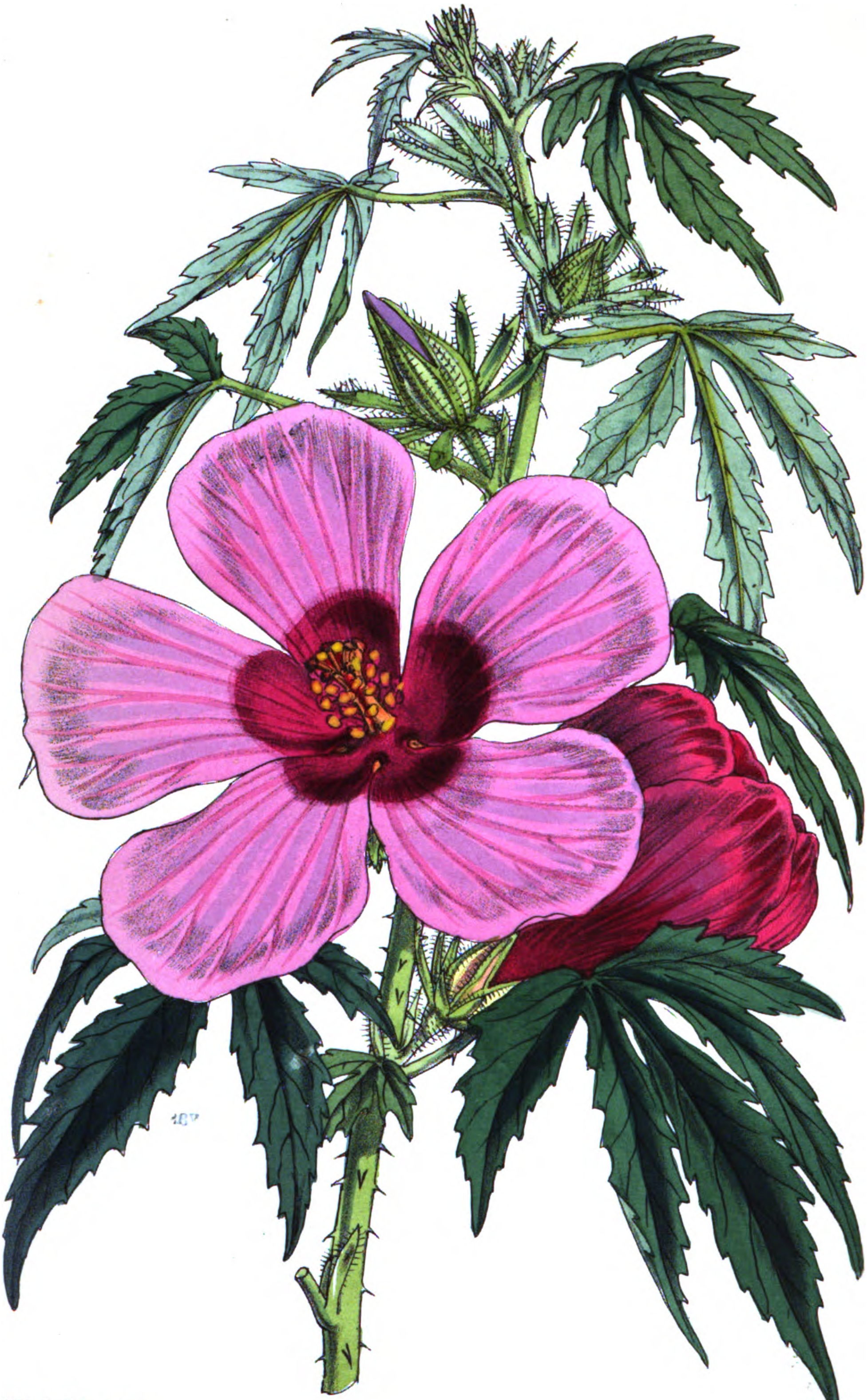
Agave from Mrs. M'Donald, of Honduras (which accompanied the noble-flowered *Cereus Macdonaldiæ*, Bot. Mag. t. 4707); and this, upon flowering in our Palm-house, in the autumn of 1858, corresponded in every particular with the figured description of Jacquin. That *Agave*, Schultes, in accordance with the views expressed by Mr. Gawler, has named *Agave Jacquiniana*. The fruit too, which is now (Jan. 1859) fully formed, precisely accords with that figured in the 'Collectanea Botanica,' and that fruit is not a little remarkable, being exactly urceolate, with a very contracted neck.

The above remarks may serve as a substitute for any long or tedious description.

Descr. *Stem* ascending, a foot and a half high, scarred with the remains of fallen leaves. The perfect leaves form a crown, and are from two and a half to three feet long, narrow-lanceolate, pungently acuminate, spreading in all directions, the superior and younger ones erect, the middle ones horizontal, the inferior ones reflexed, remotely dentato-spinose with curved *spines*. *Scape* about twelve feet long, stout in proportion, quite erect, firm and rigid, almost scaly with withered *bracteas*. *Panicle* compound. *Pedicels* stout, dichotomously divided. *Flowers* geminate or ternate, bracteolate, some quite sessile. *Perianth* quite green, little more than two inches long; the tubular portion is oblong-oval, six-furrowed; the free portion, or *sepals*, more than half as long again as the tube, linear-oblong, channelled, obtuse, quite erect, and connivent, pressing as it were against the yellow, much exserted *stamens;* these stamens are twice as long as the sepals, spreading. *Anthers* very large, full-yellow, versatile. *Style* as long as the filaments. *Stigma* obscurely three-lobed. *Fruit*, or *capsule*, when fully formed, an inch and a half long, urceolate, almost black when ripe, with a very contracted neck, three-celled, three-valved, containing in each cell several black angular *seeds*.

Fig. 1. Flowering plant, on a very reduced scale. 2. Apex of a leaf, *nat. size*. 3. Portion of a panicle, with flowers also, *nat. size*. 4. Ovary and style, after the sepals have fallen away. 5. Transverse section of the same:—*slightly magnified*.

5098



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5098.

HIBISCUS RADIATUS; *β. flore purpureo.*

Rayed Hibiscus; purple-flowered var.

Nat. Ord. MALVACEÆ.—MONADELPHIA POLYANDRIA.

HIBISCUS (§ Furcaria) *radiatus;* suffruticosus, caule aculeato, stipulis linearibus, foliis digitatim 3–7-partitis, lobis lanceolatis acuminatis grosse serratis, pedicellis brevissimis calyce involucroque infra apicem unispinoso rigide setosis.

α. petalis flavis basi atrosanguinea.

HIBISCUS radiatus. *Cav. Diss. v.* 3. *p.* 150. *t.* 54. *f.* 2. *Sims, Bot. Mag. t.* 1911. *Roxb. Fl. Ind. v.* 3. *p.* 209. *De Cand. Prodr. v.* 1. *p.* 449. *Wight et Arn. Prodr. Fl. Penins. Ind. Or. v.* 1. *p.* 48.

β. petalis purpureis basi intensioribus. (TAB. NOSTR. 5098.)

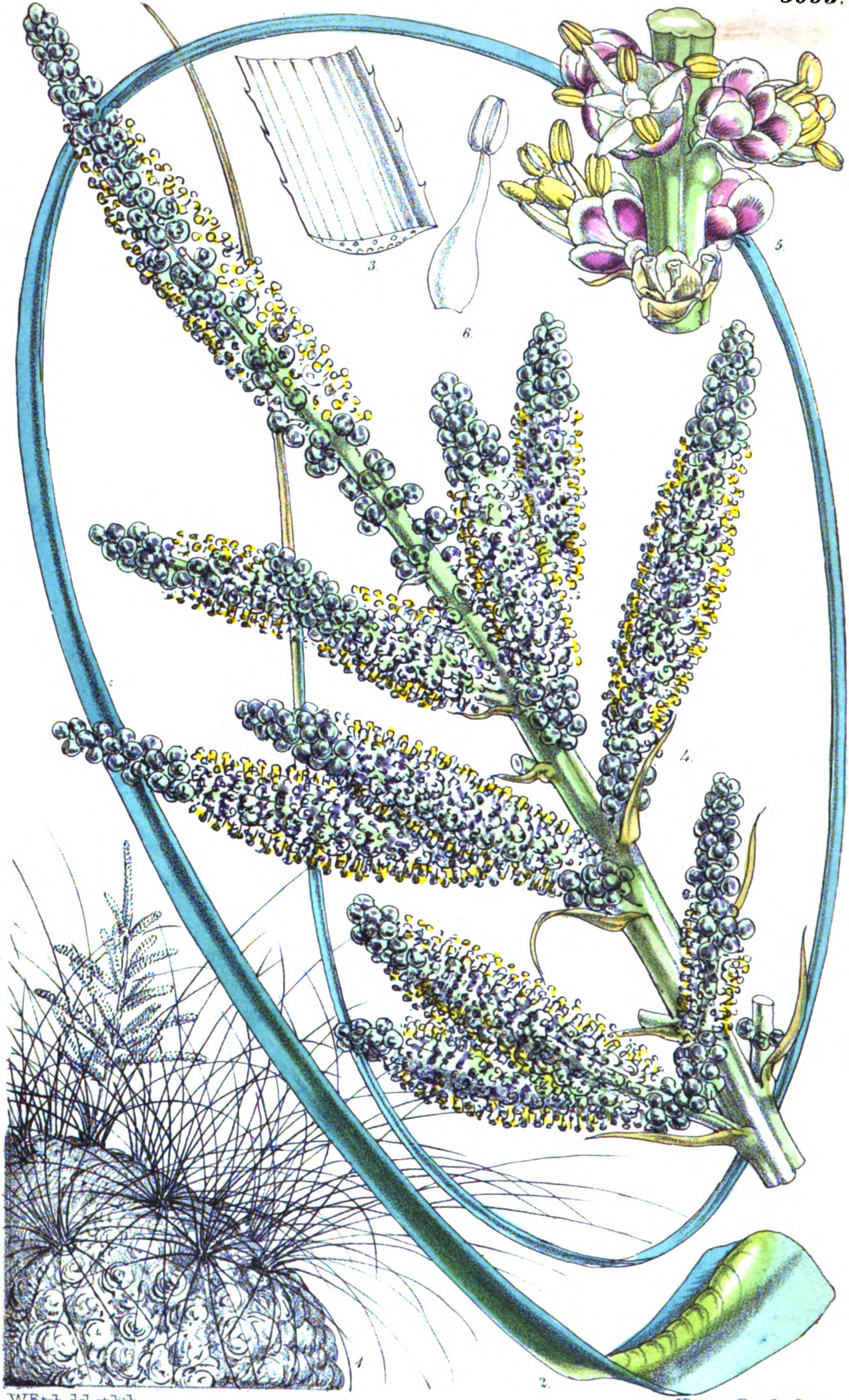
The *Hibiscus radiatus,* of which the ordinary state is to have sulphur-coloured petals, was first described and figured by Cavanilles, in 1780, from plants of which the seeds were sent by Sir Joseph Banks to that distinguished Spanish botanist; but Cavanilles does not state from what country they were received, or where a native. Willdenow gives no locality. Aiton, in the second edition of 'Hortus Kewensis,' speaks of it as an East Indian species; but Roxburgh seems only to have known it in gardens, observing, "Native place unknown. Common in gardens about Calcutta, where it blossoms during the cold season." Wight and Arnott also, in their 'Flora of the Peninsula of India,' give no locality, quoting Roxburgh's statement on this subject, and adding, "In Dr. Arnott's herbarium is a specimen from Jamaica." So that some have been led to suppose it was a West Indian plant; and certain it is, we have received specimens from Jamaica, but without any special locality; and of late Mr. Wilson, the intelligent superintendent of the late Botanic Garden at Bath, in that island (I say *late,* an awful flood having recently overwhelmed the garden with an avalanche of stones), has sent to us seeds of three varieties, all beautiful, and all distinguished by the colour of the flowers. One is the sulphur-coloured flower

FEBRUARY 1ST, 1859.

above alluded to; the second is the one we figure here, of a fine rose-purple; and a third is a full blood-purple; but in each of these two last-mentioned kinds the base of the petals is of a still deeper purple tinge, forming an eye-like spot to the centre of the entire flower. The three sorts blossom copiously in the stove, and bear a succession of flowers in the summer months. We are still in ignorance as to whether this species is aboriginal in Jamaica. Certain it is that we do not find it anywhere recorded as a native of the West Indian Islands, nor even noticed in any of the Floras of that quarter of the globe.

5099

5099.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5099.

DASYLIRIUM HARTWEGIANUM

Hartweg's Dasylirium.

Nat. Ord. ASPARAGINEÆ.—DIŒCIA HEXANDRIA.

Gen. Char. (*Vide supra*, TAB. 5030.)

DASYLIRIUM *Hartwegianum;* caule vel si mavis caudice magno subgloboso tuberculoso, foliis e tuberculis fasciculatis bipedalibus e latiuscula basi lineari-subulatis elongatis rigidis glaucescentibus dorso obtuse carinatis superne canaliculatis striatis margine spinuloso-serratis, spinulis mediocribus uniformibus apicibus integris (nec penicillato-fibrosis), panicula subsessili bipedali, ramis remotis patentibus, inferioribus longe bracteatis superioribus glomerulisque bracteis parvis subulatis scariosis, partialibus (sub flore) latis membranaceis.

DASYLIRIUM Hartwegianum. *Zuccarini in Act. Acad. Monac. v.* 4. *sect.* 2. 1845 (*Kth.*). *Benth. Pl. Hartweg. p.* 348. *Kunth, En. Plant. p.* 41.

CORDYLINE longifolia. *Benth. Pl. Hartweg. p.* 53.

About the year 1846, we received from Mr. Repper, of the Real del Monte Company's establishment, Mexico, some remarkable plants in the form of tubers, a foot and half long, and nearly as high aboveground, the surface of which is formed by a number of wrinkled tubercles, slightly elevated, and somewhat circinately wrinkled; from a few of which appeared tufts of rigid, subulate leaves, one to two feet long, in form and texture resembling those of some *Dasylirium*. The general aspect of the tubers reminded one of the well-known "Elephant's-foot" of South Africa, or of some remarkable *Dioscoreæ* which we cultivate from Mexico. These remained dormant for some years, but one of them has lately produced more copious tufts of foliage and panicles of flowers; and precisely accord (the female flowers are however wanting to our plants) with the *Dasylirium Hartwegianum* of Zuccarini, which Hartweg sent from Zacatecas, in Mexico; and a *Dasylirium* of Mr. Charles Wright ("Coll. N. Mex. 1851–2"), n. 1918, also seems to be identical; but neither of these collectors has made a note on the nature of the plant; so that whether

FEBRUARY 1ST, 1859.

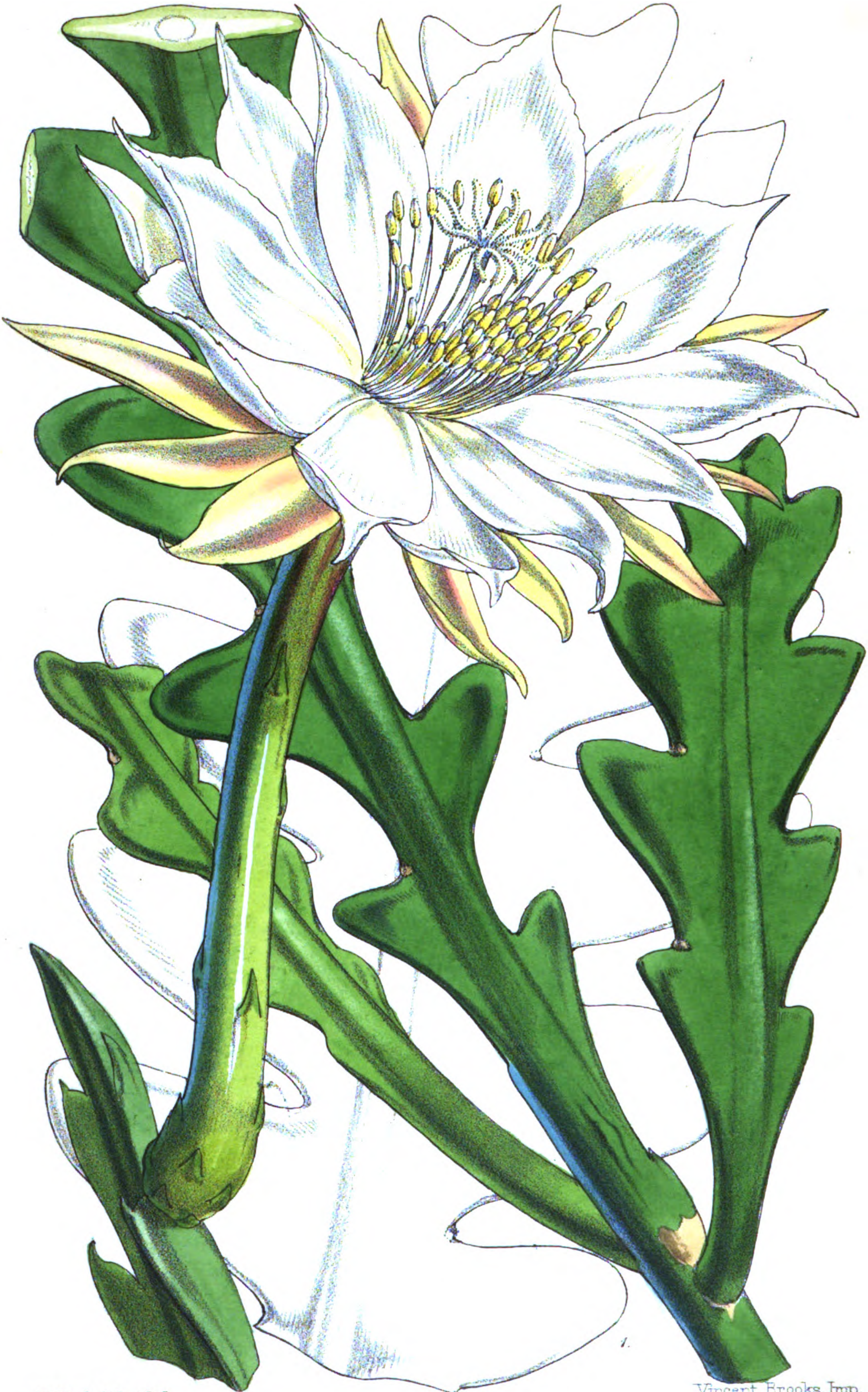
we are to consider this tuber as the normal condition of the stem or caudex of this species, or whether we are to look upon it as an accidental collection or congeries of united stems (a kind of monstrosity), still remains a doubt in our minds. All the *Dasyliria* yet known to us have separate, unbranched, and distinct stems, more or less elongated, as in the caulescent species of *Agave*, and as may be seen in our figures of two of the species of this remarkable genus, at our Tab. 5030 and Tab. 5041. The flowers of the panicles develope themselves very slowly, and the withered stalks and branches remain a long time attached to the trunk. Mr. Bentham compares this plant with the *Cordyline longifolia* of H. B. K.; but the very large, almost sheathing bracteas, rather than leaves (which latter do not appear in the figure given by Humboldt), and the widely different ramification of the panicle, and the acuminated sepals, indicate something very different.

Descr. *Caudex* a gigantic *tuber*, as above described; from the tubercles on the surface of this, the tufts or fascicles of *leaves* appear, from one and a half to three feet long, slender, harsh and rigid, from a rather broad lanceolate base, gradually becoming subulate, and tapering to a very long, slender, rigid, pungent and entire point; of a glaucous hue, finely striated, moderately keeled at the back, canaliculate on the upper surface, the margin rough to the touch from the presence of rather distant, curved, spinescent teeth, pointing upwards, uniform (not of two kinds as in *D. glaucophyllum* and *D. acrotrichum*); at the base behind a broad costa is seen, transversely wrinkled. From the centre of the tuft or fascicle of leaves the *panicle* arises, shorter than the leaves, scarcely more than a foot or a foot and a half high, branched from near the base; primary *branches* spreading horizontally, distant, quite straight, rigid; the inferior ones with long subulate *bracteas* at their base; the rest with small paleaceous ones. *Flowers* in *glomerules* or *clusters* upon the straight branches, rather lax, bracteolate. Broader and quite membranaceous *bracteoles* (about three) surround each *pedicel*, which latter is about the length of the bracteoles, and jointed at the summit, whence the flowers readily fall away. *Sepals* orbiculari-elliptical, membranaceous, white at the edge, the rest purplish. *Stamens* (our plant has only *male* flowers) six, longer than the perianth; *filament* subulate. *Anther* subcordate.

Fig. 1. A very much diminished representation of a flowering plant, with the great tuberous caudex. 2. Leaf, *nat. size*. 3. Transverse section of a leaf above the middle, *magnified*. 4. Portion of a panicle, *nat. size*. 5. Glomerules of male flowers. 6. Stamen:—*magnified*.

5100

5100.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5100.

PHYLLOCACTUS ANGULIGER.

Angle-stemmed Phyllocactus.

Nat. Ord. CACTACEÆ: Tribe PHYLLOCACTEÆ.—ICOSANDRIA MONOGYNIA.

Gen. Char. *Perigonii tubus* ultra germen plus minusve et sæpe longissime productus, gracilis, flexuosus, glaberrimus. *Phylla sepaloidea* remota, sparsa, axillis nudis; *petaloidea* numerosa, elongata, varie expansa, corollam rosaceam infundibuliformem æmulantia. *Semina* numerosa, orificio tubi adnata, *exteriora* longiora, *interiora* gradatim breviora. *Stylus* filiformis, *stamina* superans. *Stigma* multiradiatum, *radiis* linearibus. *Bacca* umbilicata, anguloso-costata, glaberrima. *Cotyledones* connatæ, suffoliaceæ.—Plantæ *pseudo-parasiticæ.* Caulis ramique *compressissimi, foliaceo-dilatati, ad margines remote crenati, omnino glabri, basi ætate teretes, lignosi.* Flores *e crenis lateralibus nocturni, ephemeri aut per aliquot dies aperti. Salm-Dyck.*

PHYLLOCACTUS *anguliger;* caule ramisque foliaceis rigidis planis crassis pinnatifidis, lobis fere rectangulari-triangularibus, floris tubo elongato crassiusculo, sepalis subcoloratis, petalis albis, stigmatibus 9–10.

PHYLLOCACTUS anguliger. *Lem. in Jardin Fleuriste, v.* 1. *p.* 6. *Lindl. et Paxton, Fl. Gard. p.* 177. *t.* 34.

A very handsome plant of the Cactus family, whose large flowers are highly fragrant. The species belongs to a group of the old genus *Cactus,* which have the large and long tube of the *Cereus* group, but with singularly compressed and almost leaf-like, more or less lobed stems and branches. To this division belongs the *Cereus phyllanthoides,* DC. (Bot. Mag. t. 2092); *Cereus Akermanni,* Pfr. (Bot. Mag. t. 3598); *Cereus phyllanthus* (Hook. Bot. Mag. t. 2692), etc.; and these now constitute the genus *Phyllocactus* of Link. Five species are enumerated by the Prince of Salm-Dyck in his useful 'Cacteæ in Horto Dyckensi cultæ, anno 1849.' Since the publication of that work, the present species has been imported from Western Mexico, and received from M. Lemaire the name of *anguliger,* from the numerous lobes of the flattened stems, many of them forming very nearly rectangular triangles. We received our living plant from the Horticultural Society of London. It flowers readily in the early winter months.

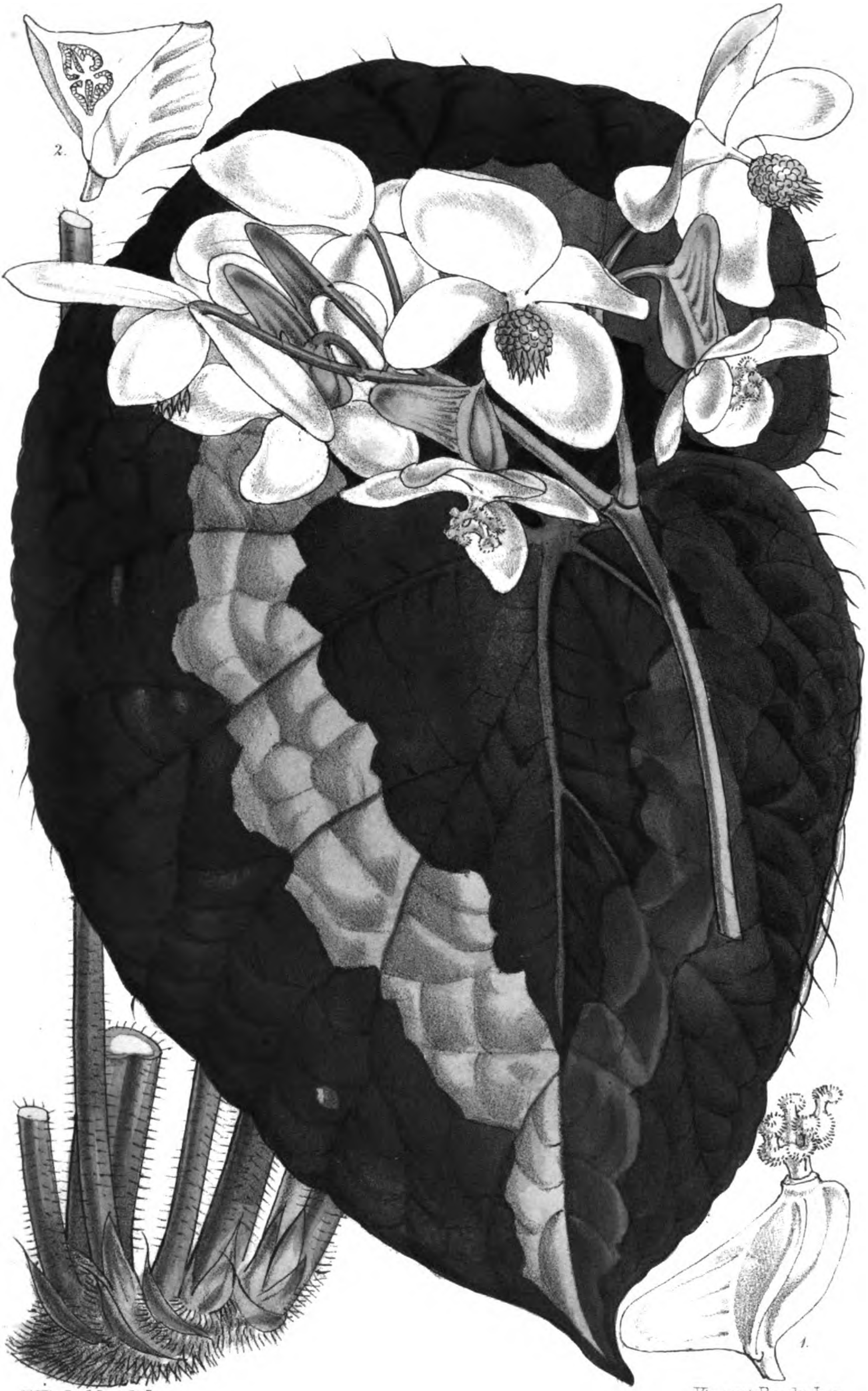
DESCR. Our *plant* is a foot and a half high; the older and

FEBRUARY 1ST, 1859.

inferior portion is terete. Main *stem* and *branches* in form obovato-lanceolate, singularly compressed, fleshy, pinnatifid, lobes more or less triangular and obtuse, sometimes acute. *Flowers* solitary, arising from the sinus of a lobe, more than six inches long, and five or six wide. *Tube* elongated, terete, a little thickened at the base, green, bearing a few appressed, small, tooth-like *scales*. *Sepals* greenish, with a pink tinge inside, narrow-lanceolate, acuminate. *Petals* pure white, obovate, sharply acuminate, as long as the sepals. *Stamens* moderately numerous; *stigma* with about ten *rays*.

Fig. 1. Extremity of the stem, *nat. size*.

5101



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5101.

BEGONIA REX.

Royal Begonia.

Nat. Ord. BEGONIACEÆ.—MONŒCIA POLYANDRIA.

Gen. Char. (*Vide supra*, TAB. 4172.)

BEGONIA *Rex;* acaulis, rhizomate crasso, foliis amplis longe petiolatis sparse pilosis inæquilatere cordato-ovatis sinuato-crenatis venoso-bullatis atro-metallico-viridibus nitidis versus marginem purpureo tinctis annulo lato argenteo in disco pictis, pedunculo petiolis longiore dichotome cymoso; floribus roseis majusculis; *masc.* sepalis 4 quorum 2 cordatis 2 triplo minoribus oblongis, antheris acuminatis; *fœm.* sepalis 5 minoribus subæqualibus oblongis; capsula obliqua, alis 2 parallelis angustis tertia longe producta oblongo-ovata obtusa.

BEGONIA REX. *Putz. in Flore des Serres, v.* 2, *Dec.* 1858 (*with* 2 *plates*).

This is certainly the most lovely of the many lovely species of *Begonia* with which we are acquainted, and almost justifies the laudatory notice M. Van Houtte has given of it in the volume just quoted: "Nous sommes bien désolé d'arriver si tard à faire paraître la planche représentant de demi-grandeur* la feuille du *Begonia Rex.* Ainsi que vient de le dire M. Jules Putzeys, notre honorable collaborateur, c'est à M. J. Linden qu'est échue la bonne fortune d'augmenter les collections Européennes de ce merveille *Begonia,* dont la venue est tout un événement en horticulture. En ayant acquis de nombreux exemplaires dès la mise en vente, nous avons pu en réserver quelques-uns pour en faire des spécimens, qui, pendant le cours du dernier été, produisirent sur les visiteurs un de ces effets [illegible]isissants qui charment tout autant le vendeur que l'acheteur. Le débit a été grand; mais aussi est-ce là une de ces plantes '*fit for the million,*' comme disent nos confrères de la fière Albion."

Mr. Linden is stated to have received the plant from Assam; but it is not to be supposed the enormous size of the leaf represented by M. Van Houtte is natural to it in its own country,

---

* This "*demi-grandeur*" is 14 inches long and 9½ wide!

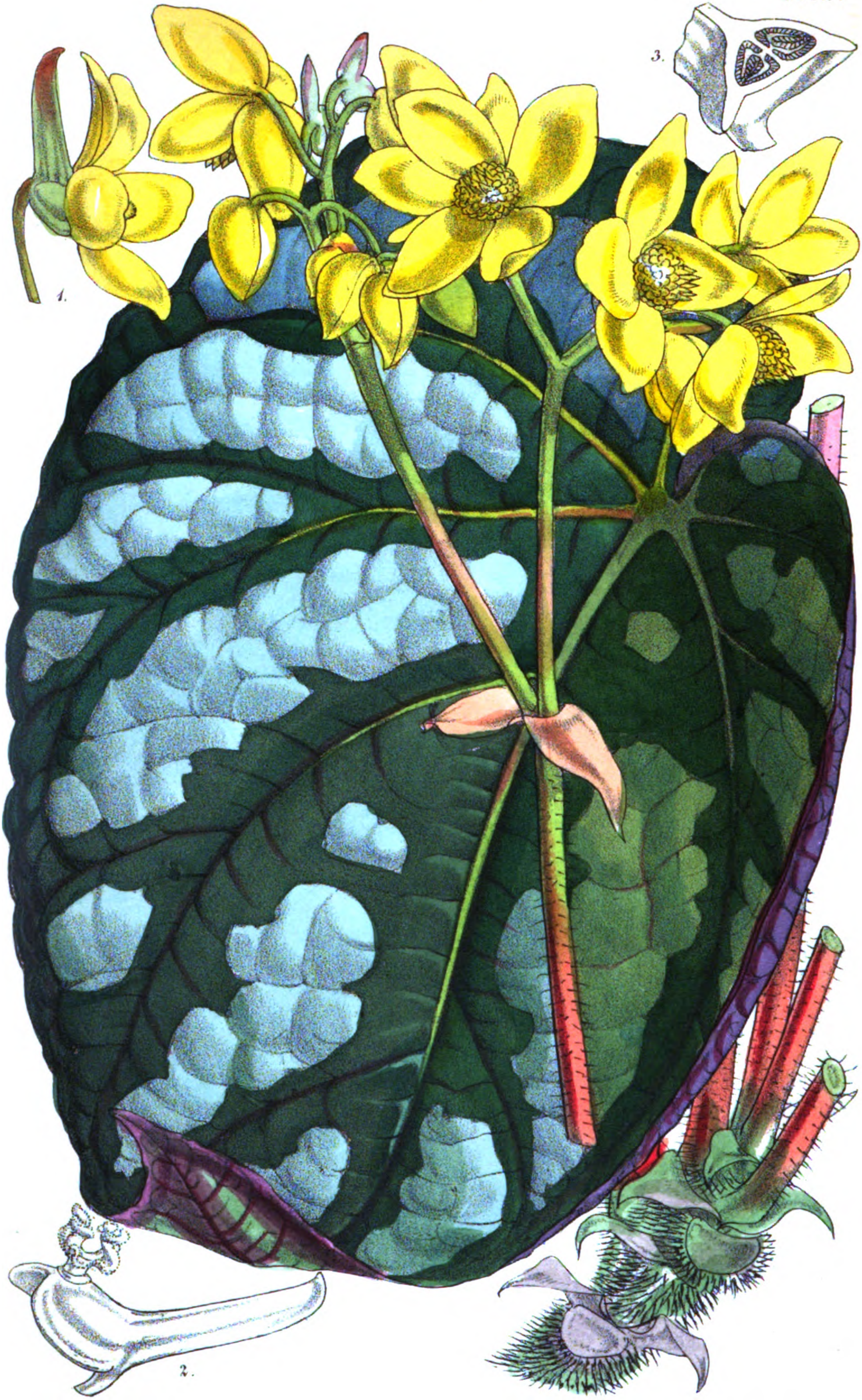
FEBRUARY 1ST, 1859.

—it is the effect of high cultivation; and what is gained in size is lost in brilliancy of colour, to judge from the figure. It has flowered with us in the autumn, and probably by a little management the blossoms may be produced at most seasons of the year.

Descr. There is no true stem to this plant. The red, terete *petioles*, furrowed on the anterior side, spring in clusters from a subterraneous creeping *rhizome*, by dividing which the plant is readily increased. *Bracteas* ovate, hair-pointed, strongly ciliated at the lower edge. *Leaf* about as long as the petiole, in our plants averaging eight to ten inches long, five or six broad, obliquely and inequilaterally ovate, deeply cordate at the base, the lobes overlapping, sparingly villous (as is the petiole), the margin sinuato-dentate, the surface bullate as if from the tightness of the veins. The *colour* a deep-green, with a metallic lustre, and towards the margin tinged with purple. The dark green-coloured surface is however interrupted by a broad ring, if it may be so called, of a dead silvery-white, which takes the direction of the margin of the leaf, and is continued almost to the apex of the leaf. *Peduncle* resembling the petiole, but quite terete. *Cyme* rather few-flowered, twice dichotomous. *Flowers* large, pale rose-colour. *Bracts* very deciduous. *Male flowers* two inches across, of four sepals; two cordato-ovate, concave; two smaller, oblong, plane. *Anthers* yellow, acuminate. *Female flowers* scarcely more than half the size of the male, of five nearly equal, oblong, spreading *sepals*. *Style* short. *Stigmas* yellow, convolute. *Capsule* oblique, oval, with two narrow, short, parallel *wings*, and one long, projecting, ovato-oblong, obtuse one.

Fig. 1. Capsule. 2. Transverse section of the cells:—*magnified.*

5102,



W. Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5102.

BEGONIA XANTHINA; var. *pictifolia.*

Yellow-flowered Begonia; variegated-leaved var.

Nat. Ord. BEGONIACEÆ.—MONŒCIA POLYANDRIA.

Gen. Char. (*Vide supra*, TAB. 4172.)

BEGONIA *xanthina;* acaulis, rhizomate brevi crasso villosissimo crinito, foliis amplis oblique brevi-acuminatis sinuatis denticulatis subtus discoloribus (rubris), petiolis aggregatis crassis folium subæquantibus rubris stipulatis setosis, stipulis magnis glabris, scapo petiolis duplo longioribus, floribus subnutantibus corymbosis flavis, masculis plerisque tetrasepalis, sep. 3 oblongo-cuneatis unico majore rotundato magis concavo, fœmineis minoribus sepalis magis æqualibus, fructus alis 2 brevibus, unica elongata striata.

BEGONIA xanthina. *Hook. Bot. Mag. t.* 4683.

β. pictifolia; foliis maculis albescentibus irroratis, floribus pallide flavis sepalis angustioribus, capsulæ ala majore angustiore ascendente.

BEGONIA picta. *Hort. Jackson* (*not Smith*).

We received this beautiful-leaved plant* from Mr. Jackson, of the Kingston Nursery, under the name of *Begonia picta;* but assuredly not having any specific connection with the well-known *Begonia picta* of Sir James E. Smith. Its affinity is with our *B. xanthina,* above quoted, and at present at least, till I can learn more of its history, I am disposed to consider it a variety of that plant, or perhaps a cross with some of the painted-leaved species. It is, indeed, near akin to *B. Rex* (see our Tab. 5101), especially in the leaves; but that has yellowish-white flowers, tinged with rose: all of them have mucronate anthers. I fear much dependence cannot be placed on the colour of the flowers, nor on the spotting of the leaves. Some of our own young plants of my *B. xanthina* have the leaves spotted, but the spots are of quite a different character from those of our present plant. It is well known that the beautiful *B. argyrostigma* (Exotic Flora, t. 18) became by continued cultivation spotless, and then lost all its charm with cultivators.

---

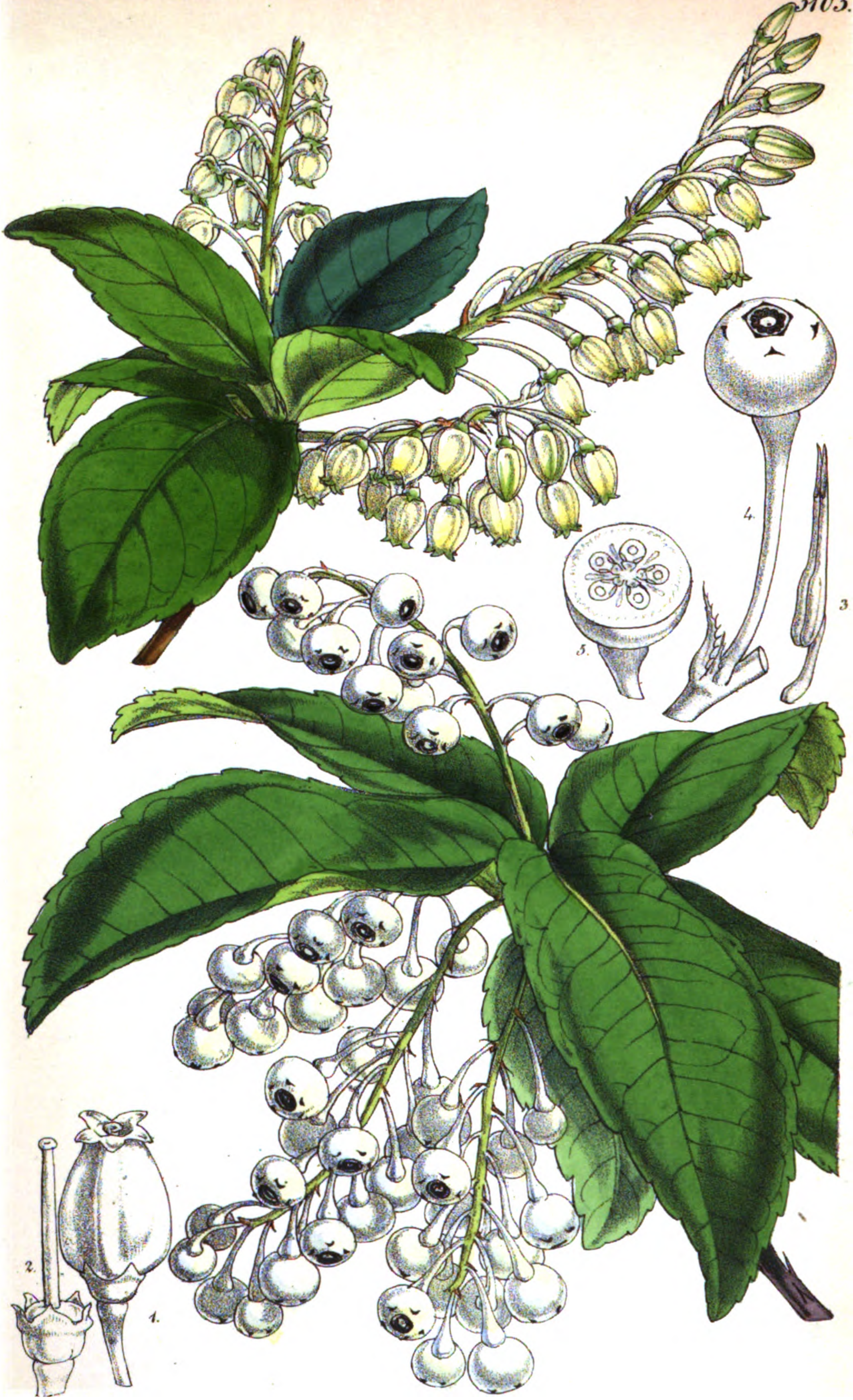
* Since the above was printed, we have received No. 14 of Mr. Linden's 'Catalogue des Plantes Exotiques,' in which, under the head of 'Plantes Exotiques Nouvelles,' he has represented on one plate leaves of three Begonias of Assam, one of which, called *Begonia Victoria,* is clearly our plant; but no characters are given indicating any *specific* identity.

MARCH 1ST, 1859.

Fig. 1. Female flower, *nat. size*. 2. Fruit, slightly *magnified*. 3. Transverse section of ditto, more *magnified*.

5103

5103.



W.Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5103.

EPIGYNIUM LEUCOBOTRYS.

White-fruited Epigynium.

Nat. Ord. VACCINIACEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5010.)

EPIGYNIUM *leucobotrys;* frutex epiphytica, ramulis verticillatis, radice tuberosa crassa, foliis oblongo-lanceolatis grosse serratis obtusiusculis, racemis subterminalibus folio longioribus, bracteis minutis ciliato-serratis, pedicellis demum elongatis carnosis (floribusque albis) apice dilatatis, corolla urceolata obtuse pentagona, baccis depresso-globosis albis.

EPIGYNIUM leucobotrys. *Nutt. MSS.*

Whether or not *Epigynium* of Klotzsch should rank as a genus, or perhaps more correctly as a section of *Vaccinium*, our present plant belongs to the same group as *Epigynium acuminatum*, Kl., figured at Tab. 5010 of our volume for 1857, and we are indebted for the introduction of it to our greenhouses to the same venerable botanist as for that, Mr. Nuttall. It was imported living from the Duppla Hills, north-eastern Bengal, by his nephew Mr. Booth, who found it there growing on a species of Oak. "It is an evergreen shrub," writes Mr. Nuttall, "seven or eight feet high, very erect, with verticillate branches, a tuberous root, almost like that of a yam, but harder in substance, having numerous racemes of white, conic, pentagonal flowers, so diaphanous as (when held between the eye and the light) to show the ten, yellow, awned anthers within." It proves a hardy greenhouse shrub, bearing its pure-white flowers most copiously in the summer months, and its equally white and wax-like berries (reminding one of the "crow-berries") in the autumn.

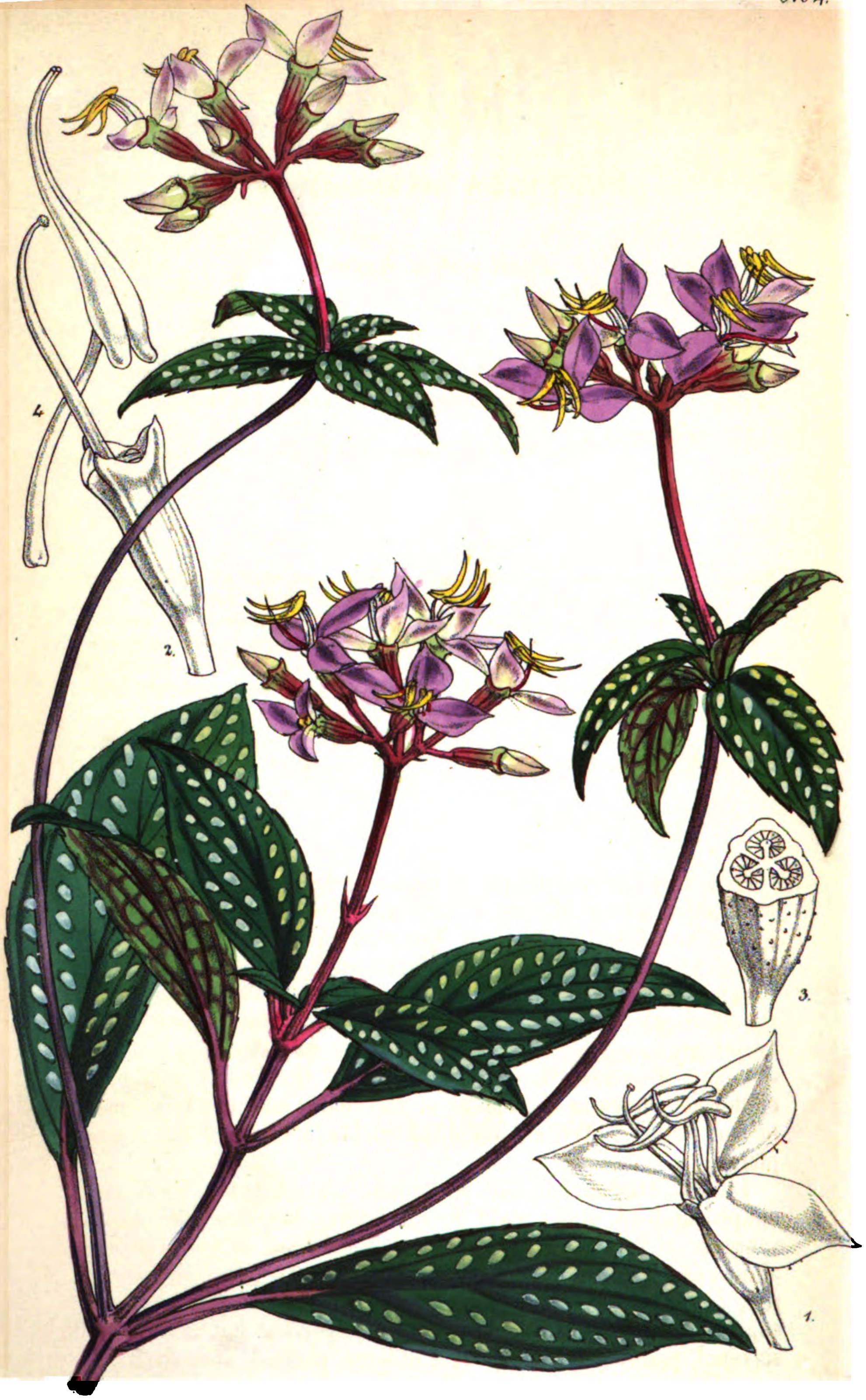
DESCR. *Shrub* from four to seven or eight feet high, erect. *Branchlets* verticillate. *Leaves* from the apices of the branchlets are very short. *Petioles* evergreen, oblong-lanceolate, scarcely acuminate, obtuse at the very point, spreading, scarcely serrated,

MARCH 1ST, 1859.

strongly veined: the veins more or less anastomosing. *Racemes* copious from among the leaves, and longer than them, drooping, secund, many-flowered. *Pedicels* at first about twice the length of the glabrous flowers, but elongating as the fruit advances to maturity, white, fleshy, pellucid, dilated at the apex, at the base having a small lanceolate and somewhat fimbriated *bract*. *Calyx-teeth* five, small, triangular. *Corolla* conico-urceolate, with a limb of five small spreading teeth. The *colour* is white, the *substance* waxy, subdiaphanous. *Stamens* ten. *Filaments* short, glabrous, linear-subulate. *Anther* subulate, two-lobed at the base, the two cells opening by a pore at the apex, and the back extending so as to form two erect awns. *Berries* copious, about the size of peas, globose, depressed, pure-white, waxy, with five dark spots in a circle below the apex, which are the remains of the small calyx, five-celled.

Fig. 1. Flower. 2. Calyx and pistil. 3. Stamens. 4. Bract, pedicel, and berry. 5. Transverse section of a berry:—*magnified*.

5104



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5104.

SONERILA MARGARITACEA.

Pearl-spotted Sonerila.

Nat. Ord. MELASTOMACEÆ.—TRIANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4978.)

SONERILA *margaritacea;* herbacea perennis glaberrima, caulibus subdecumbentibus pubescenti-glandulosis ramis pedunculisque intense rubris, foliis ovato-lanceolatis sublonge petiolatis acutissime serratis supra nitidis intense viridibus maculatis maculis ovalibus albis unipilosis oblique lineatim dispositis, subtus pallidis venis purpurascentibus, terminalibus subsessilibus verticillatis minoribus, corymbis terminalibus solitariis, calyce oblongo triquetro, limbo trilobo erecto, petalis obovatis acutis, antheris longirostratis.

SONERILA margaritacea. *Lindl. in Gard. Chron. Nov.* 1854, *n.* 727. *Planchon, in Fl. des Serres, t.* 1126.

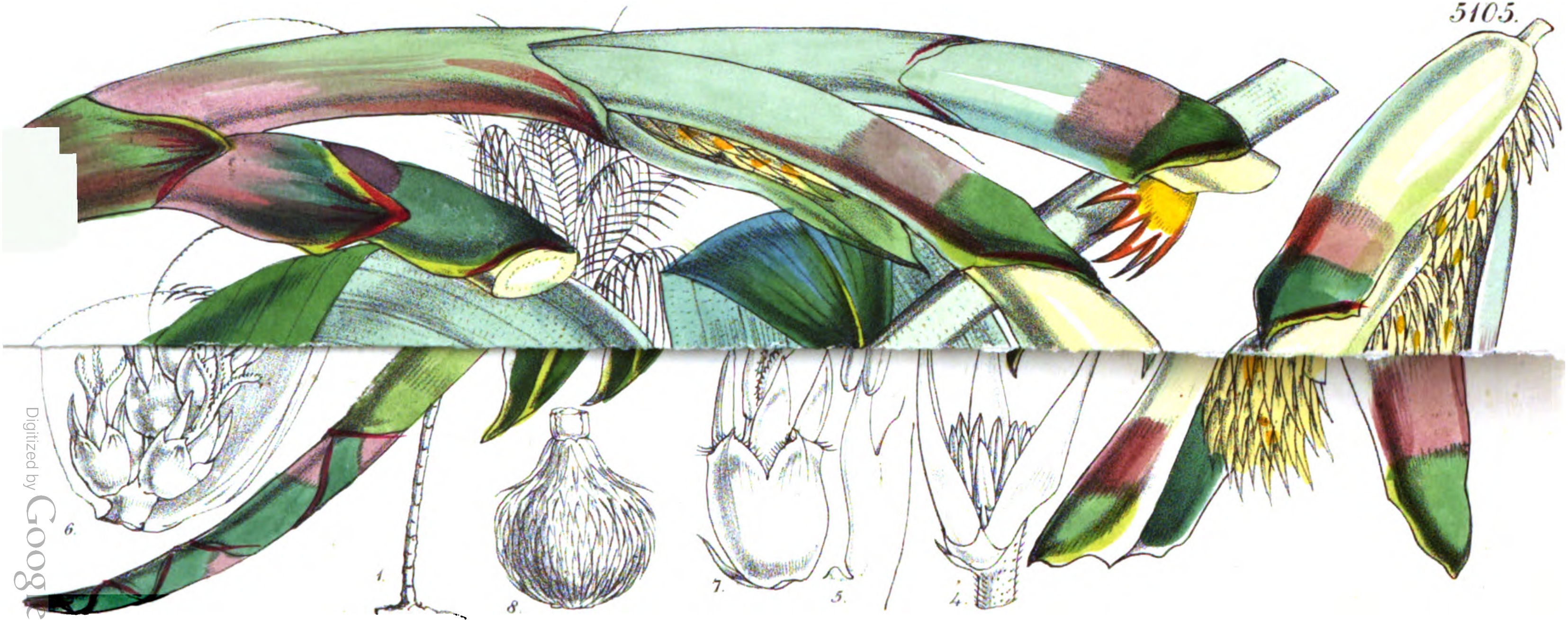
This very lovely little plant, a great acquisition to our stoves, was imported by Messrs. Veitch and Sons, of the Nurseries, Exeter and Chelsea, through their collector, Mr. Thomas Lobb, "from some part of India." It is assuredly among the prettiest of a very pretty genus, and when first exhibited at a meeting of the Horticultural Society, in 1854, "excited the admiration of everybody present." It seems by no means difficult of cultivation, but it is said that the pinching off the young peduncles of flowers increases the vigour of the plant, and the brightness of the foliage. We are indebted to Mr. Veitch for our living plants.

DESCR. Herbaceous, but perennial. *Stems* rather weak and subprocumbent, about eight to ten inches long, slender, quadrangular, rich scarlet, pubescenti-glandulose, as is more or less almost every part of the plant. *Leaves* opposite, petiolate (*petiole* red, from half an inch to an inch and more long), oblong- or ovato-lanceolate, acute or acuminate, sharply but not very closely serrated, penniveined; the *veins* oblique, parallel, very dark and

glossy green above, with oval, white, margaritaceous spots arranged in single lines or series between the veins, and following their direction: beneath pale, the veins red-purple. *Peduncles* red, terminal, generally surrounded at the base by a whorl of subsessile leaves, or foliaceous bracts, smaller than the cauline ones. *Corymb* of eight to ten flowers, with minute, subulate *bracts* at the base of the pedicels. *Calyx-tube* oblong, triquetrous, adnate with the ovary, striated, sometimes a little glandular; *limb* erect, of three, nearly erect, acute lobes. *Petals* three, obovate, sharply acuminate, rose-coloured. *Stamens* three, inserted on the limb of the calyx, alternating with the petals; *filaments* nearly erect, subulate; *anthers* subulate, two-lobed at the base, long-rostrate, opening by two minute pores at the apex. *Style* subulate; *stigma* capitate, small.

Fig. 1. Flower. 2. Calyx and pistil. 3. Tranverse section of the ovary. 4. Stamens:—*magnified.*

5105.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5105.

PLECTOCOMIA ASSAMICA.

Assam Plectocomia.

Nat. Ord. PALMACEÆ.—DIŒCIA HEXANDRIA.

Gen. Char. *Flores* dioici in spadice elongato, per spicam simplicem vel ramosam dispositi, sub spathis incompletis squamæformibus distichè imbricatis reconditi, sessiles, masculi geminati, fœminei solitarii; illi: *Calyx exterior* trifidus; *interior* 3-partitus, præfloratione valvatus. *Stamina* 6; *filamenta* subulata, basi cohærentia; *antheræ* lineares, fere basi affixæ. *Ovarium* rudimentum nullum. *Fœm.* *Calyx* maris. *Stamina* ananthera, in cupulam hypogynam membranaceam sexfidam coalita. *Ovarium* 3-loculare; loculo uno alterove sæpe effeto. *Stigmata* 3, subsessilia, subulata. *Bacca* squamis retrorsis imbricatis loricata, 1-locularis, 1-sperma. *Albumen* æquabile, corneum. *Embryo* basilaris.—Caudex *longissimus, sarmentoso-scandens.* Frondes *maximæ, pinnatæ;* pinnis *reduplicatis;* rachi *sæpe in cirrhum longissimum excurrente, dorso aculeis multilobis uncinatis armata.* Spadices *laterales, divisi in ramos longos,* spathis *coriaceis fuscidulis laxe imbricatis, coopertos.* Flores *ochroleuci vel rubello-fusciduli.* Fructus *castanei.* *Kth.*

PLECTOCOMIA *Assamica;* spathis laxe patentibus lato-oblongis brevi-acuminatis obtuse sub-complicato-carinatis coloratis, petalorum laciniis longe acuminatis, staminibus 8–12.

PLECTOCOMIA Assamica. *Griff. in Calcutta Journ. of Nat. Hist. v.* 5. *p.* 97.

PLECTOCOMIA Khasiyana? *Griff. in Calcutta Journ. v.* 5. *p.* 98; *Palms of the East Indies, p.* 106. *t.* 218.

PLECTOCOMIA Himalayana? *Griff. in Calcutta Journ. v.* 5. *p.* 100, *and in Palms of the East Indies, p.* 108. *t.* 219.

ZALACCA Assamica. *Wall. MSS. in Hort. Calcut. Voigt, Hort. Suburb. Calcut. p.* 639 (*name only*).

This very interesting species of Palm has flowered at the Royal Gardens, Kew, recently, for the second time; plants having been sent to us many years ago by the late Dr. Wallich, under the name of *Zalacca Assamica,* Wall. MSS. This same plant Griffith has, in the 'Calcutta Journal of Natural History,' properly referred to the genus *Plectocomia,* and has distinguished it, with little care or accuracy, from the *P. elongata* of Martius and Blume. Griffith has, indeed, figured and described (very imper-

MARCH 1ST, 1859.

fectly) what he considers two other species of the genus, which he has named after the countries in which he found them, *P. Khasiyana*, and *P. Himalayana*. Of *P. Assamica* he observes, "The fruit is a good deal like that of *P. elongata*, judging from Martius's figure, but the scales are so fimbriate that it has quite a woolly appearance." Under *P. Khasiyana* he remarks, "This would appear nearly allied to the preceding (*P. Assamica*), from which it differs in the smaller spathas, the very small calyx, with minute triangular teeth, the broader petals, the brown, not rust-coloured fruit, which is smaller, and not by any means so villous, the points of the scales being less fimbriate, and often deciduous." Of *P. Himalayana*,* "This may be the male of the preceding (*P. Khasiyana*)." The figures too, such as they are, sufficiently represent our plant to justify me in quoting them, though doubtfully. The *P. Muelleri*, Bl., of Java, seems to be a very different species, detected also in Borneo by Mr. Thomas Lobb. Our present kind seems peculiar to Eastern Bengal, and differs from *P. elongata* in the long, lax-coloured (white, brown, and green), narrower spathas, the very long acuminated segments of the corolla, and in the constantly more numerous stamens. It is a slender Palm, attaining the length of sixty-six feet, even in cultivation in our Palm-stove, and though not strictly scandent, needing support; and Nature has admirably provided for this want by the curious and excessively strong, digitate spines upon the rachis of the frond, in shape resembling the foot of a mole. A singular use is made of that of the allied *Plectocomia elongata* in Java (as witnessed by the late Mr. Winterbottom), by persons whose duty it is to catch rogues and vagabonds. To the inside of a forked stick a sufficient portion of the rachis is attached, with its strong deflexed spines; and this fork being thrust in such a way as to include the body of the man, the spines get a firm hold of the captive, either by his clothes, or what is much more painful, his flesh. The leaves or fronds are said to be employed for basket-work.

Descr. *Caudex* very long, ragged with the very spinous sheathing bases of fallen leaves; below, the caudex is scarcely so thick as a man's ankle, but it becomes a little broader upwards; the upper portion, and for a considerable length below the apex, leafy. *Leaves* or *fronds* often thirty feet long, but the lower half only is pinnated; the rest is a flagelliform extension of the *rachis*, destitute of pinnæ, and the whole flattened under side of this rachis is beset with stout, compound, digitate *spines*, at greater or less distances, all pointing downwards: those nearest the base

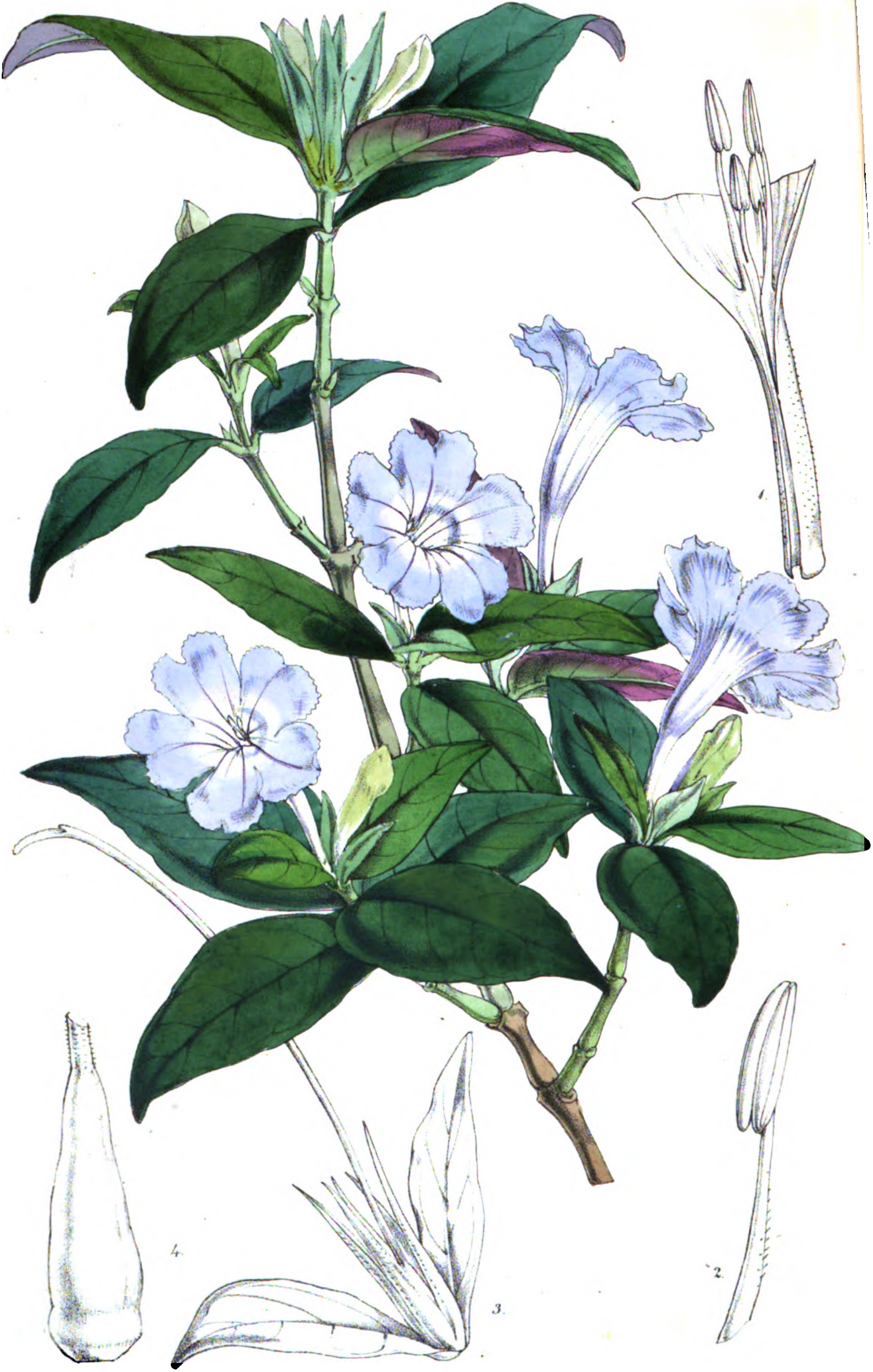
---

* Dr. Hooker, however, detected in Sikkim a small species of *Plectocomia* which has the appearance of being very distinct from any of these.

of the leaves are longest and straightest. It is stated that by means of these spines the fronds hook themselves on to the branches of trees, and so maintain the trunk in a nearly perpendicular position. *Pinnæ* numerous, six to seven inches to nearly a foot long, more or less broadly lanceolate, acuminate, plicate, very glaucous beneath. *Spadices* (*male*, the only ones I have seen living) are numerous from among the leaves, compound, that is branching from near the peduncle, and these branches long (two and three feet or more), gracefully drooping, pendulous; they are clothed with numerous, imbricated, distichous *scales* or *spathas*, two to three inches long, subrhombeo-oblong, carinate, concave, firm-membranaceous, acute rather than acuminate, nearly white, with a band of pale-brown below the green apex, which is often tinged with dark-brown, and finely ciliated at the margin. Within each spatha is a spike (or *partial spadix*) of numerous, pale-yellowish, bracteolated *flowers*. *Calyx* trifid, with the lobes or teeth subulate. *Corolla* tripartite; *segments* long-lanceolate, acuminate. *Stamens* eight to ten or twelve, much shorter than the corolla. *Filaments* short. *Anther* linear-oblong, subsagittate. *Female spatha* (from our first flowering specimen) similar to the male. *Spike* or *partial spadix* of *female flowers* about one-half the length of the spatha. *Calyx* large in proportion to the flower, three-lobed; the *lobes* obtuse, mucronate, ciliato-fimbriate. *Corolla* as in the male. *Ovary* subglobose, clothed with reflexed, fringed scales. *Style* short. *Stigmas* three, fringed in the inner face. *Fruit* (seen only in the dried state) globose, brown, an inch broad, clothed with reflexed, fringed scales, subtended by the persistent and very rigid floral coverings. *Seed* globose. *Albumen* firm and hard, copious.

Fig. 1. Extremely reduced figure of the entire Palm. 2. Portion of a frond, with pinnæ and digitate spines. 3. Portions of the male spadix:—*nat. size.* 4. Male flower. 5. Stamen:—*magnified.* 6. Female spatha, with its spike or partial spadix of flowers.—*nat. size.* 7. Female flower. 8. Ovary:—*magnified.* 9. Fruit. 10. Section of seed:—*nat. size.*

5106



W Fitch, del et lith.

Vincent Brooks, Imp

TAB. 5106.

DIPTERACANTHUS CALVESCENS.

Subglabrous Dipteracanthus.

Nat. Ord. ACANTHACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. (*Vide supra*, TAB. 4494.)

DIPTERACANTHUS *calvescens*; caule suffruticoso basi repente glabro caudicante, juvenili apice hirsuto, foliis elliptico-oblongis acuminatis basi acutis brevi-petiolatis repandis, juvenilibus supra undique subtus ad costas hirsutis, adultis glabrescentibus, floribus infra terminali-axillaribus geminis ternisve subsessilibus, bracteolis inferioribus ovatis obtuse cuspidatis, superioribus oblongo-lanceolatis obtusis calyce longioribus hirsutis, corollæ tubo longo fauce obconico tubum subæquante. *Nees.*

DIPTERACANTHUS calvescens. *Nees, in Endl. et Mart. Fl. Brasil. fasc.* 7. *p.* 32. *De Cand. Prodr. v.* 11. *p.* 128.

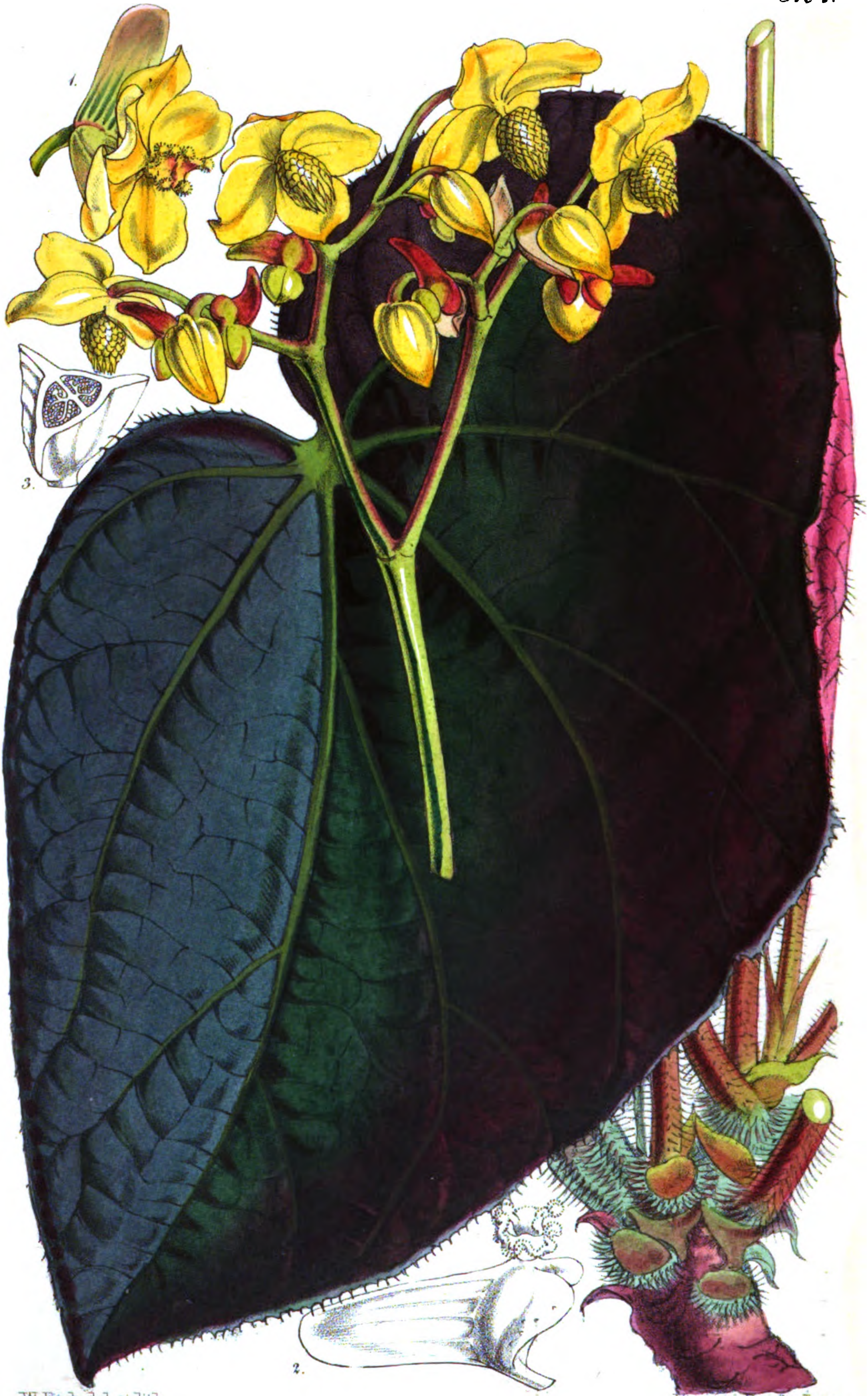
If *Dipteracanthus calvescens* can lay no claim to floral beauty, nothing to be compared with that of *D. spectabilis* (see our Tab. 4494), it is nevertheless worthy of cultivation, from the fact of its blossoming, and that freely, in the winter months, in our stove; and it would no doubt succeed well in a warm greenhouse. It is a native of Rio Janeiro, where it has been gathered by Martius, Riedel, Schott, Sellow, and Gardner. Notwithstanding some discrepancies, our plant here figured, which we received from Pernambuco through Mr. de Mornay, is clearly the same as Nees's *D. calvescens.* We have native specimens both from Riedel and Gardner (n. 805) in our herbarium. The drawing was made in December, 1858.

DESCR. A rather straggling, small *shrub*, or *undershrub*, for the young branches are green and herbaceous, and more or less pubescent. *Stem* whitish, especially below, subterete, swollen at the setting-on of the branches or leaves. *Leaves* opposite, one and a half to two inches long, oblong or ovato-lanceolate, short-petioled, gradually but obtusely acuminate, penniveined, the margin repando-subdentate, teeth very blunt, pale beneath, and sometimes purplish. *Flowers* in our plant geminate, nearly sessile, terminal upon young shoots, but it is probable, from the prolongation of a new shoot beneath the flowers, the latter may appear subaxillary. The young leaves, which surround the base of the flowers, have somewhat the appearance of bracts. *Calycine bracts* lanceolate, acuminate, longer than the calyx. *Calyx* quinquepartite, the segments lanceolato-subulate. *Corolla* rather pale purplish-lilac, with a few deeper lines or streaks; *tube* long, infundibuliform, suddenly contracted, so that the lower half is very narrow and white; *limb* nearly equal, of five, obcordate, slightly crisped, spreading lobes. *Stamens* four, didynamous, quite within the tube. *Anthers* linear-subsagittate. *Ovary* oblong-ovate, on a thick fleshy torus. *Style* slender. *Stigma* of two very unequal segments.

Fig. 1. Tube of the corolla laid open to show the stamens. 2. Single stamen. 3. Calyx, with pistil. 4. Ovary and torus:—*magnified.*

5107

5107.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5107.

BEGONIA XANTHINA; var. *Lazuli.*

Yellow-flowered Begonia; Lapis-Lazuli var.

Nat. Ord. BEGONIACEÆ.—MONŒCIA POLYANDRIA.

Gen. Char. (*Vide supra*, TAB. 4172.)

BEGONIA *xanthina*, Hook. (For specific character and synonyms see our Tab. 5102 of the present volume.)

Var. *Lazuli;* foliis immaculatis supra metallico-purpureis cæruleo-tinctis. (TAB. NOSTR. 5107.)

BEGONIA Lazuli. *Linden, Suppl. Cat. Pl. Exot.* 1858, *p.* 2 (*name*).

Mr. Linden, the distinguished horticulturist at Brussels, has great merit in having of late years introduced to our European stoves a series of plants of the genus *Begonia*, "from Assam," of very great beauty, both in respect of flower and foliage; the latter remarkable for its great size and metallic lustre, and exhibiting, in these leaves, a considerable variety both in the nature and disposition of the spots. To this group belong the *Begonia Rex* (see our Tab. 5101), the *Begonia amabilis, argentea*, and *Victoria*, of Linden, and *B. Lazuli* of the same author (the plant here figured); all these belong to one and the same group, of which our *B. xanthina* (Bot. Mag. t. 4683) from Bhotan may be considered the type, if it be not, as I am induced to suppose it is, the common parent of all, assisted, as may probably be the case with the *Begonia Rex*, by a cross with some pink-flowered species. Indeed the *B. Victoria* of Linden (as it proves to be, see our Tab. 5102) I had no hesitation in considering as a painted-leaved variety of *B. xanthina*, and I have as little in referring our present plant to that also. But it deserves a place in every ornamental stove as much as if it were a distinct species. Linden himself alludes to the analogy in question. "Sans avoir la prétention de se comparer à l'espèce précédente (*B. Rex*), ce *Begonia* est néanmoins d'une grande

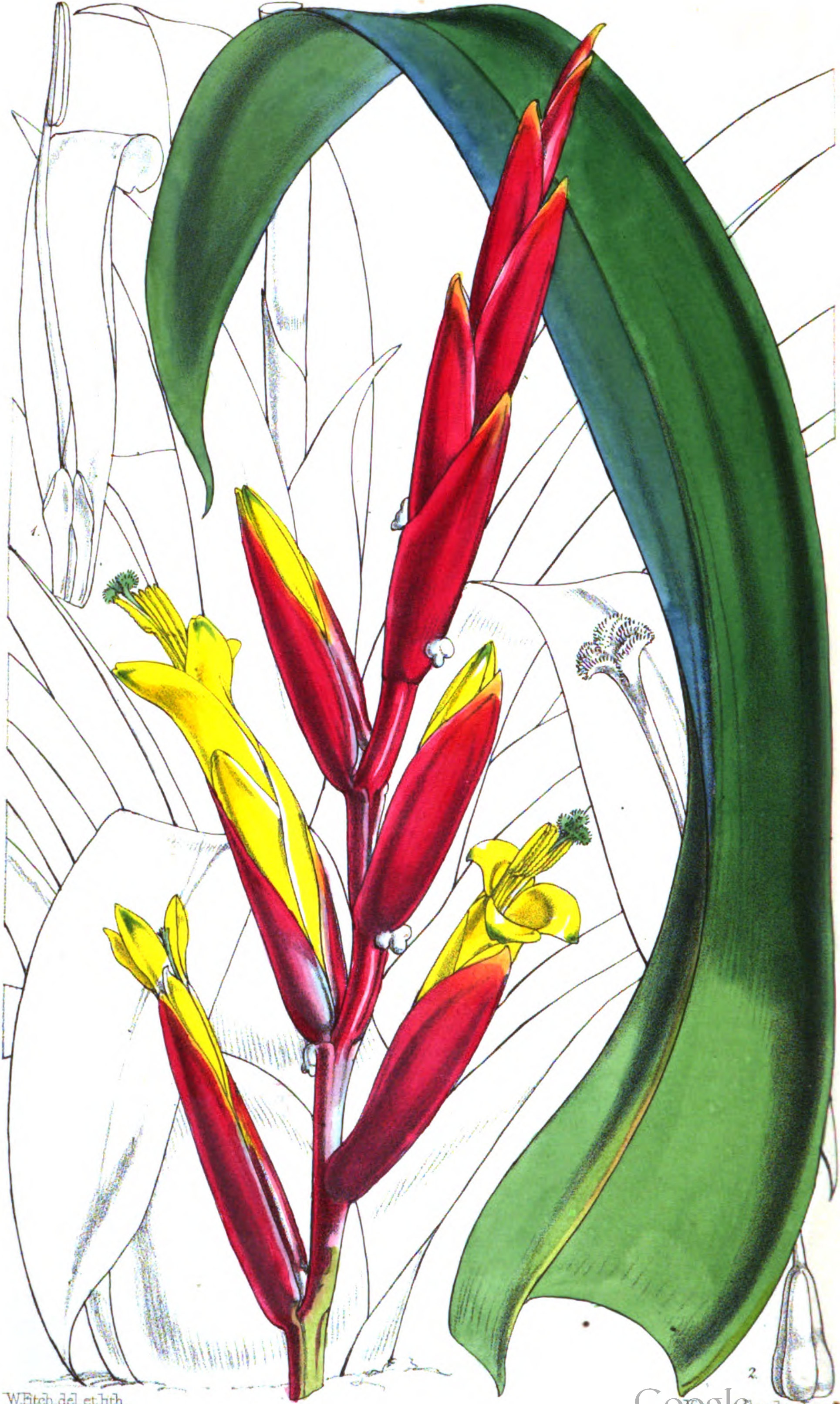
APRIL 1ST, 1859.

beauté, et mérite sa dédicace par l'analogie frappante du coloris de ses feuilles avec la pierre précieuse connue sous le nom de *Lapis-Lazuli*. La partie supérieure de ses grandes feuilles est en effet d'un bleu minéral parsemé d'une poussière étincellante. La fleur jaune est de la grandeur et de la forme de celle du *B. xanthina*. Cette espèce habite les mêmes localités que le *B. Rex*, et a été découverte par le même collecteur."

Fig. 1. Female flower, *nat. size*. 2. Immature capsule. 3. Transverse section of the capsule (the longer wing being removed) :—*magnified*.

5108

5108.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5108.

VRIESIA PSITTACINA; *var.* RUBRO-BRACTEATA.

Parrot-flowered Vriesia; red-bracteated var.

Nat. Ord. BROMELIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. Sepala 5, convoluta, æqualia, petalis apice revolutis breviora. *Squamæ* cuique petalo 2, semiadnatæ, indivisæ. *Stamina* exserta, 3 libera petalorum basi inserta, 3 inter petala inserta iisque basi connata; *antheræ* lineares, planæ, posticæ. *Ovarium* semi-inferum, conicum; *stigma* trilobum, lobis convolutis et sinuatis villosis.—Folia *plana, erecta.* Flores *distichi, distantes,* bracteis *magnis canaliculatis coloratis. Lindl.*

VRIESIA *psittacina;* foliis oblongo-lingulatis integerrimis brevi-acuminatis basi ventricosis, spica simplici, rachi flexuosa colorata, floribus distantibus, bracteis calycibusque corolla parum brevioribus, staminibus exsertis.

a. bracteis superne flavis.

TILLANDSIA psittacina. *Hook. Bot. Mag. t.* 2841.

β. bracteis omnino coccineis. (TAB. NOSTR. 5108.)

VRIESIA psittacina. *Lindl. Bot. Reg. v.* 29. *t.* 10.

Native of Brazil, and a very great ornament to our stoves, by bearing its handsome scarlet and yellow spikes of flowers in the winter months. Our figure, given in the 'Botanical Magazine,' of this plant thirty years ago, does not do justice to its beauty. That here given is, like that of Dr. Lindley in the 'Botanical Register,' a variety, in which the bracteas are of the same rich scarlet all over as the rachis; and I am glad to have the opportunity of giving a more perfect representation, and referring it to the genus *Vriesia* of Dr. Lindley, so named in commemoration of the merits of Dr. W. de Vriese, Professor of Botany at Leyden, an excellent botanist and physiologist, now on a government botanical mission to Java.

DESCR. *Leaves* all radical, eight and ten inches to nearly a foot long, oblongo-lingulate, waved, acuminate, entire, dark-green, much inflated or ventricose at the base, of a coriaceo-membranaceous texture. *Scape* one foot to one and a half foot high,

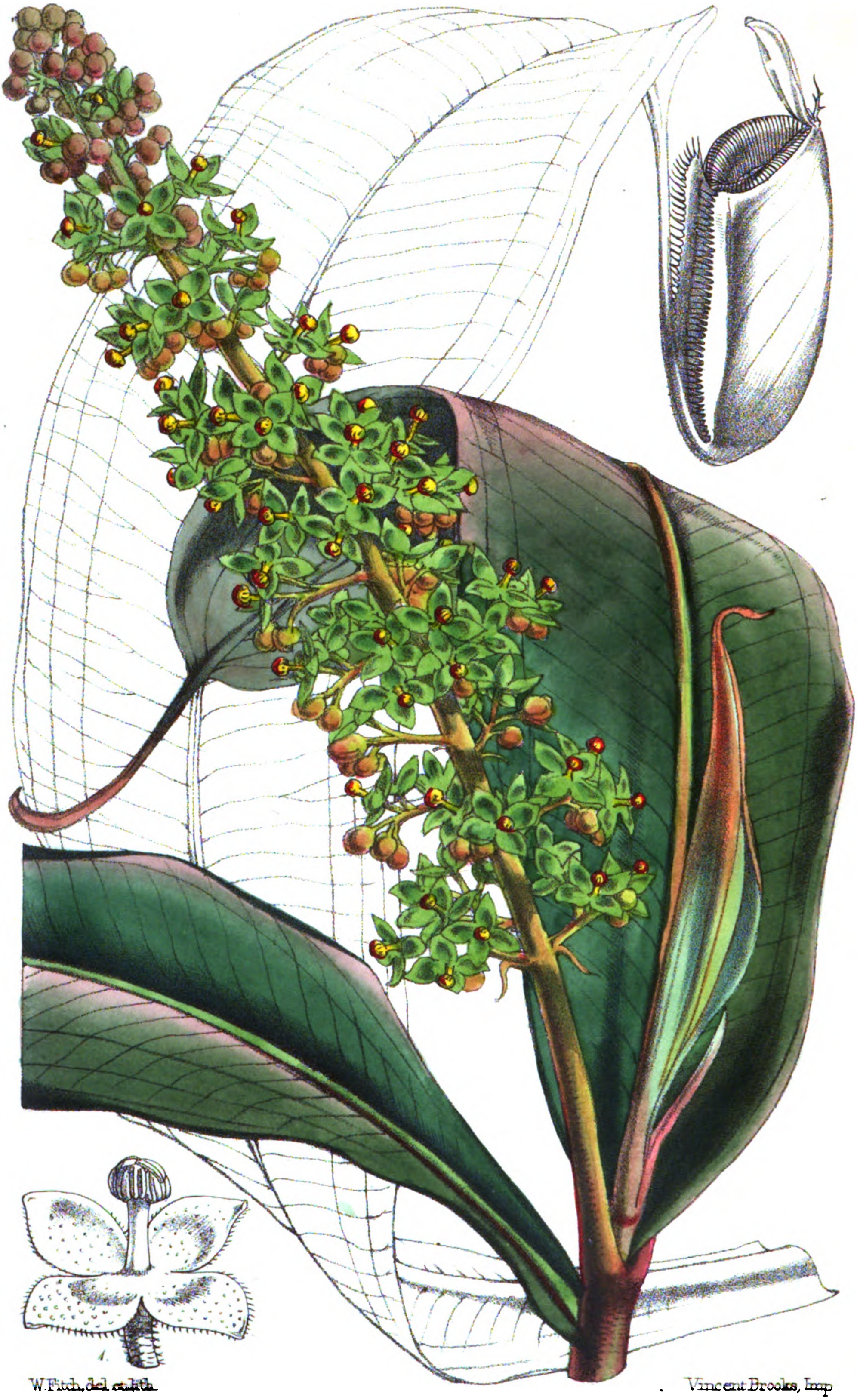
APRIL 1ST, 1859.

erect, arising from the centre of the plant, bearing from ten to twenty distichous flowers, opening from below upwards in succession, of which only two or three are expanded at one time. *Rachis* flexuose; *flowers* scarlet, distant. *Bracteas* large, sheathing the flower and a little shorter than it, rich scarlet even to the apex. *Sepals* and *corolla* bright-yellow, the former the length of the bract, oblong, obtuse. *Petals* linear, acute, recurved, and with a tinge of blue at the tips; at the base having two spathulate *scales*. *Stamens* and *style* exserted. *Ovary* almost entirely free. *Stigma* in three, cuneate, glandular lobes.

Fig. 1. Petal and stamen. 2. Pistil:—*magnified*.

5109

5109.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5109.

NEPENTHES AMPULLARIA.

Ampullaceous Nepenthes, or Pitcher-plant.

Nat. Ord. NEPENTHACEÆ.—DIŒCIA MONADELPHIA.

Gen. Char. (*Vide supra*, TAB. 4285.)

NEPENTHES *ampullaria;* caule basi repente superne ascendente scandente, ascidiis radicalibus late ovato-ventricosis reliquis ovali-cylindraceis antice alis duabus membranaceis longe pectinato-ciliatis, ore subcontracto, margine angusto inflexo striato, operculo parvo lanceolato demum reflexo, racemis pubescentibus.

NEPENTHES ampullaria. *W. Jack, in Hook. Comp. to Bot. Mag. v.* 1. *p.* 271. *Lambert, Pinus, v.* 2. *App. t.* 8. *Korthals, Bot. p.* 39. *t.* 13.

As compared with the noble pitchers of *Nepenthes Rafflesiana*, Jack (see our Tab. 4285 of this work), and our still more striking *Nepenthes villosa,** given at Tab. 5080, *N. ampullaria* claims few attractions; and it has unfortunately happened that our artist took his drawing too late in the season for the more perfect pitchers, which are collected in numbers about the base of the plant at an earlier season, on small and abortive leaves, and then disappear. These are sometimes almost globose, singularly inflated or ampullaceous, whilst the pitchers springing from the end of a fully-formed cauline leaf, where they are always less perfect, are narrower and oval-oblong; and no others were present on the plant at the flowering-season (August). The species is a native of the forests of Singapore; also at Rhio, on the island of Bintang, Malay Archipelago. We owe our plants to the liberality of Lady Dorothy Nevill, Dangstein, and of Messrs. Veitch and Sons, of the Nurseries, Exeter and Chelsea.

DESCR. The lower part of the plant is more or less creeping, and that, together with the lower portion of the erect and scandent stem, bears whorls of abortive or very imperfect leaves, terminated by an inflated, broad, ampullaceous *pitcher*, three inches long, green, membranaceous, sometimes faintly tinged with red, obliquely striated, slightly contracted above; the mouth at first small, and closed with an oblong or lanceolate lid, which soon opens, and becomes erect, at length reflexed; bearing just above the base a soft bristle. *Leaves* on the stem remote, broad-lanceolate, sessile, costate, with a few lateral, longitudinal veins, and several transverse ones; these leaves are terminated by a filament (or prolongation of the costa), either clubbed at the apex or bearing a pitcher, narrower and more cylindrical than those just described. *Female* plant: *panicle* or *raceme* downy, bearing *flowers* similar in structure to those of other species already described.

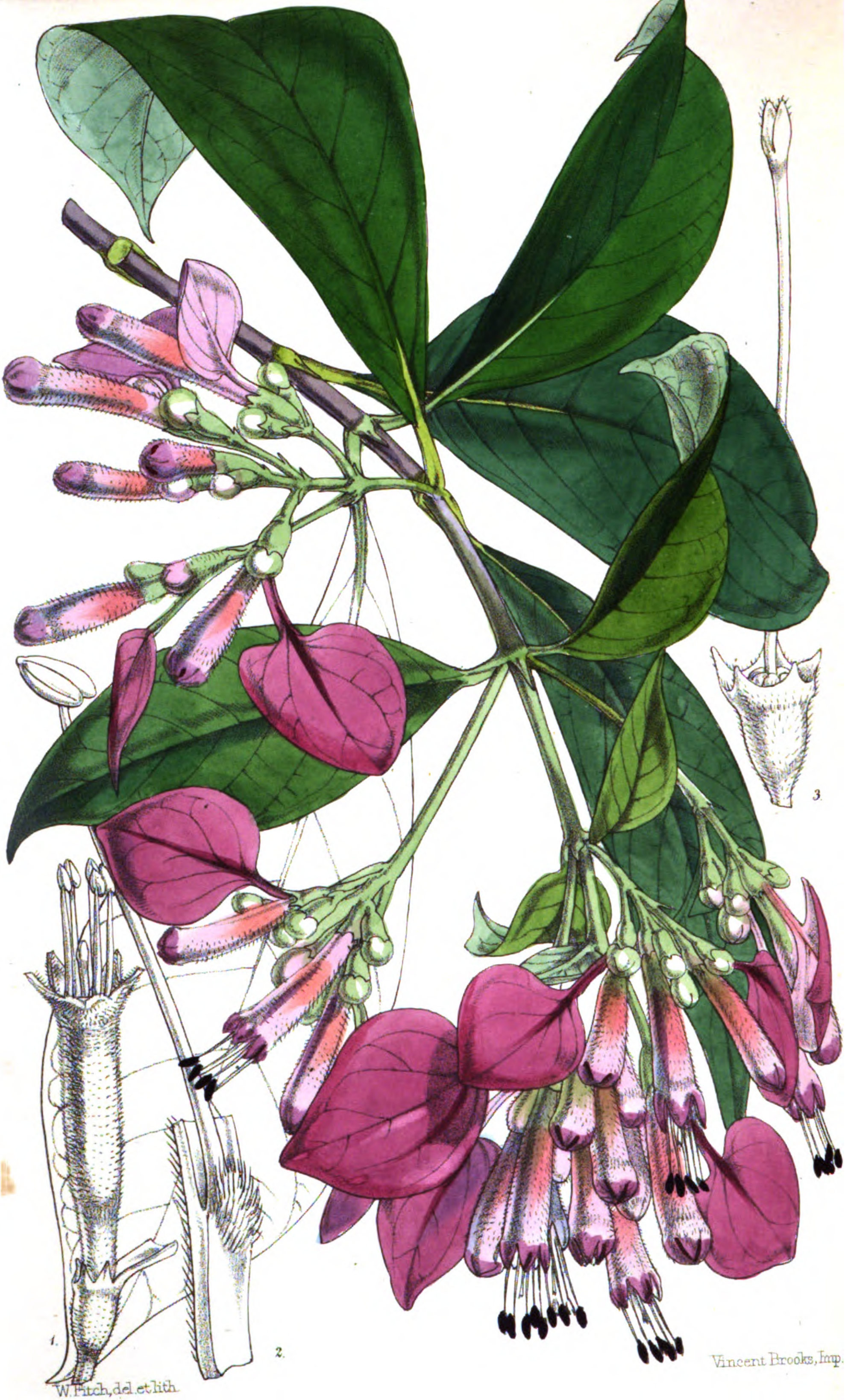
---

* And even these are very inferior to some magnificent pitchers from two new species lately sent to us by Hugh Low, Esq., which he collected on Kina Balloo, in Borneo; one of them more than 14 inches long, and of a form as remarkable as the size.

APRIL 1ST, 1859.

Our figure represents terminal leaves and a panicle of male flowers, and a leaf with a pitcher:—*nat. size.* Fig. 1. Male flower:—*magnified.*

5110



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5110.

HOWARDIA CARACASENSIS.

Caracas Howardia.

Nat. Ord. RUBIACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. Calyx tubo turbinato cum ovario connato, limbo supero breviter 5-dentato, dente uno in folium coloratum cordato-rotundatum petiolatumque expanso. *Corolla* supera, tubulosa, pubescens, limbo brevi 5-lobo, lobis æstivatione valvatis, tubo inferne crassiusculo (in flore sicco chartaceo) intusque glabro et nitido superne molliter membranaceo, pagina intima glabra vel pilosa. *Stamina* 5, ex annulo densissimo pilorum basim partis membranaceæ corollæ vestientium orta, *filamentis* glabris, *antheris* oblongis introrsis fere medio dorso affixis exsertis. *Ovarium* disco pulviniformi coronatum, biloculare. *Ovula* plurima, horizontalia, in placentis membranaceis ellipticis margine involutis sæpiusque bifidis dissepimento medio secundum lineam verticalem adnatis, anatropa. *Stylus* filiformis, corollæ longitudine, glaber, stigmate bifido. *Capsula* rotundato- vel oblongo-turbinata, hinc et inde sulco plus minusve profundo notata, obsolete costulata, vertice truncato-areolata, areola (seu pulvine persistente) limbo calycis reliquio annulari integro aut dentato arcte circumcincta, àb apice ad basim loculicide dehiscens, placentis simul longitrorsum fissis, valvis dein septicide bifidis. *Semina* subcompressa, oblonga, angulosa, aptera.—Arbores *vel* frutices *Americæ tropicalis*, foliis *oppositis*, *petiolatis*, *pubescentibus*; stipulis *interpetiolaribus*, *persistentibus*, *parum conspicuis*, *triangularibus*, *abrupte acuminatis*; floribus *cymoso-paniculatis*, pedunculis *terminalibus*. *Wedd.*

HOWARDIA *Caracasensis*; foliis ovatis vel obovato-ellipticis longiuscule acuminatis, acumine acutissimo, basi cuneatis supra nisi in costa glabratis subtus pubescentibus, dentibus calycis triangularibus acuminatis, lobo foliaceo ovato (vel cordato-ovato), corolla tubulosa hirsuta, capsulis (exemplaribus Panamensibus) elliptico-globosis pedicellisque verrucosis.

HOWARDIA Caracasensis. *Weddell*, *Ann. des Sc. Nat. ser.* 4. *Bot. v.* 1. *p.* 74.

CALYCOPHYLLUM tubulosum. *Seemann*, *Bot. of H.M.S. Herald*, *p.* 135 (*vix De Cand.*, *and excluding the locality of Peru*, *M'Lean*).

PINCKNEYA ionantha, *Hort. Makoy*.

This is indeed a very lovely stove-plant, with gracefully drooping panicles of flowers, whose beauty is very much increased by the remarkable enlargement of one of the minute teeth of the calyx into a heart-shaped, petiolated, deep rose-coloured, folia-

APRIL 1ST, 1859.

ceous *lobe*, similar to what takes place (except in respect of colour) in the well-known *Mussænda* of our stoves. It is a plant, too, interesting in another point of view, as one of a new genus of which the typical species, *Howardia febrifuga*, Weddell, of Bolivia, has been detected as one of the medicinal barks of commerce, and much used by the Bolivians in intermittent fevers.* To this plant Dr. Weddell has assigned the generic name *Howardia*. "Parmi les genres," says Dr. Weddell, "que j'ai fait connaître dans ma Monographie des Quinquinas, il en est un auquel j'appliquai, par mégarde, un nom (*Chrysoxylon*) appartenant à une plante d'une autre famille. Pour mettre fin à ce double emploi, je vais aujourd'hui donner à ma Rubiacée un nom nouveau; et je ne fais, ce me semble, qu'un acte de justice en laissant tomber mon choix sur celui de l'excellent quinologiste qui vient de publier, en Angleterre, un mémoire aussi judicieux qu'approfondi, sur la collection de Quinquinas de José Pavon, léguée par Lambert au Musée Britannique." No compliment could be better deserved. Another described plant referred to this genus by M. Weddell is the *Calycophyllum tubulosum* of De Candolle, from Brazil. A third species is the *Howardia grandiflora*, Weddell, readily distinguished by its linear calycine teeth; and a fourth species is the *Howardia Caracasensis*, certainly our plant of Venezuela, but so nearly allied to *Howardia tubulosa* that Dr. Seemann has united the two, as well as a Peruvian species in my herbaria, which latter, I think, will prove different.

Howardia Caracasensis, as its name implies, is a native of the province of Caracas, in Venezuela, where it was detected by *Funcke* (Pl. Exsicc. n. 463, in Herb. Paris., n. 372, Herb. Hook.). We possess specimens also from *Fendler*, from the same country, and from our collector, *M. Birschell*, and from the banks of the river Chagres, in Panama, gathered by *Seemann*.

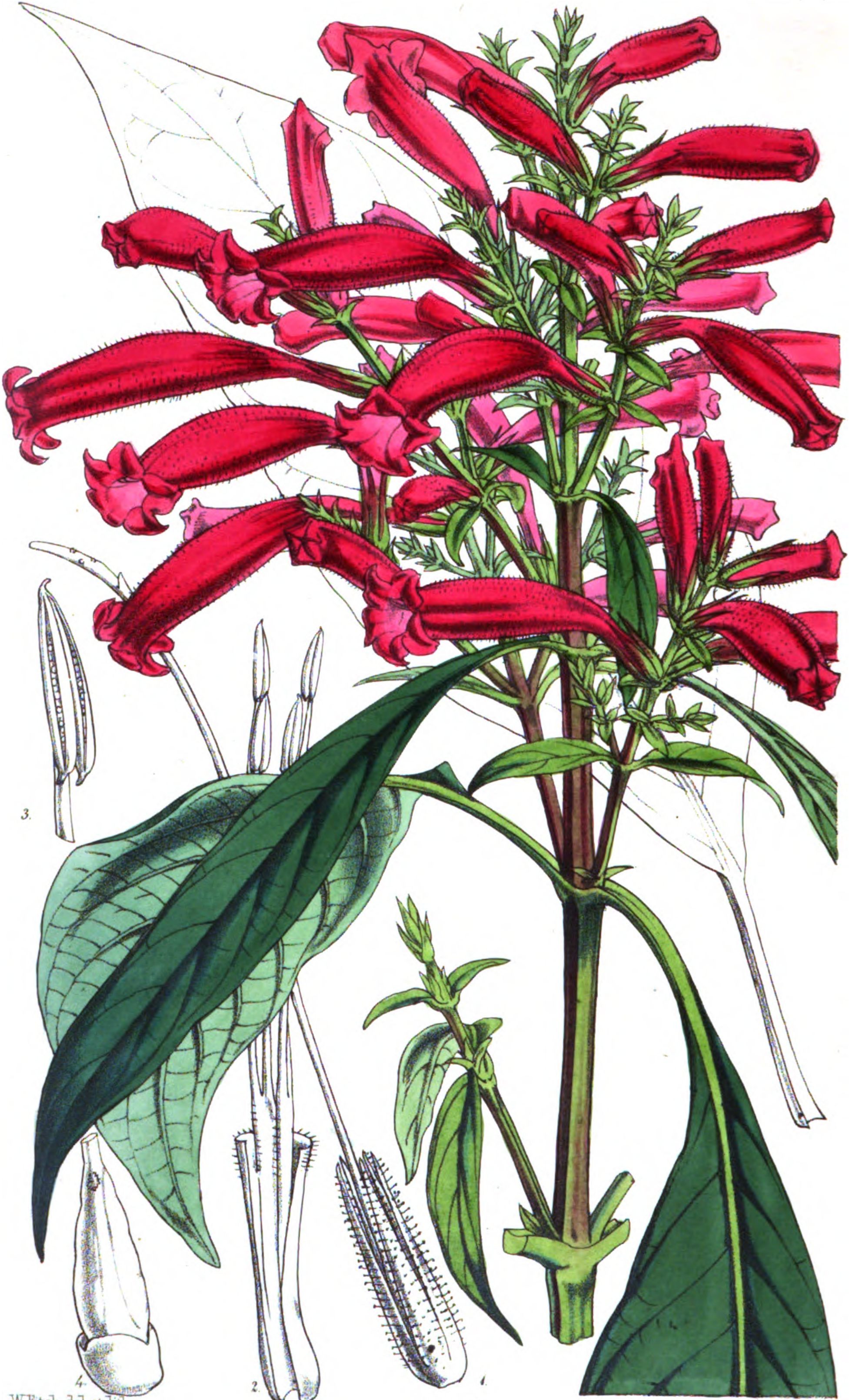
Fig. 1. Flower, from which the foliaceous lobe is removed above the base of its petiole. 2. Stamen. 3. Pistil:—*magnified*.

---

* For an account of the analysis, by Mr. Howard, see Annales des Sciences Nat. l. c. p. 68, *note*.

5111

5111.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5111.

STEPHANOPHYSUM BAIKIEI.

Dr. Baikie's Stephanophysum.

Nat. Ord. ACANTHACEÆ.—DIDYNAMIA GYMNOSPERMIA.

Gen. Char. Calyx 5-partitus, *laciniis* angustis æqualibus. *Corolla* tubo brevi, faucibus in plerisque campanulato-inflatis deorsum ventricosis aliis ovalibus oblongisve æqualibus; *limbi laciniis* brevibus æqualibus erectis (v. magis minusve patentibus). *Stamina* 4, didynama, faucibus inserta, corollam plerumque æquantia; *filamenta* per paria basi connata; *antheræ* biloculares, *loculis* parallelis, lineares, basi sagittatæ, demum recurvæ. *Stigma* bilabiatum, *labiis* planis acuminatis, superiore breviore. *Capsula* a basi ad medium contracta, elocularis, hinc bilocularis, 4–12-sperma. *Semina* plana, orbiculata, *retinaculis* fulcrata.—Herbæ *Americæ* (*et Africæ*) *tropicæ*, foliis *plus minus dentatis* (*v. integerrimis*). Cymæ *umbellares, laterales, pedunculatæ, 4-fidæ, abortu bifidæ*, radiis *bifidis*, bracteis *parvis subulatis*, bracteolis *nullis: abortu evadunt pedunculi uniflori, sub flore bibracteati, vel flores terminales, aggregati, subracemosi*, pedicellis *ebracteatis*. Corolla *digitaliformis, coccinea. Nees in De Cand.*

STEPHANOPHYSUM *Baikiei;* suffrutex? glaber, ramis 4-angulatis, foliis ovato-lanceolatis acuminatis integerrimis basi in petiolum longum attenuatis, panicula composita terminali multiflora, calyce piloso-glanduloso, corollis elongatis infundibuliformi-tubulosis curvatis lateraliter compressis basi angusto-attenuatis medio subventricoso, laciniis patenti-recurvis, glandula hypogyna magna cupuliformi carnosa, antheræ loculis basi brevi-calcaratis.

One of the many highly interesting plants lately sent home from the present Niger Expedition by its successful Commander Dr. Baikie, and collected by the indefatigable naturalist, Mr. Barter. Seeds accompanied the dried specimens, and these have germinated, and the plants flowered in great beauty during the winter months of 1858–9. The structure is in every essential particular so much of that of *Stephanophysum*, Pohl (of which however the thirteen species described by Nees are all South American), that I can have no hesitation in referring the plants to that genus.

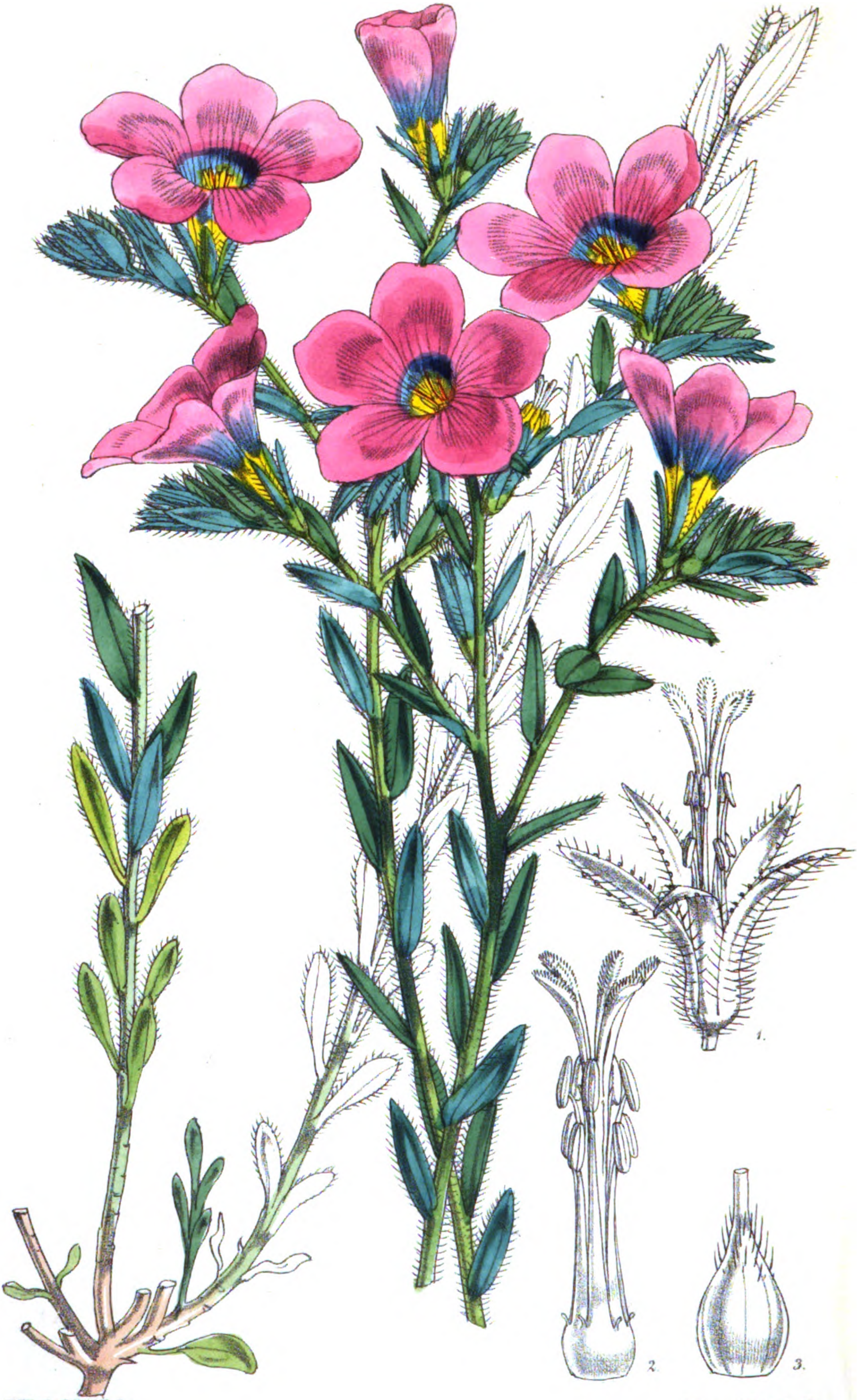
DESCR. Our plant is between two and three feet high, herbaceous at present, but will probably prove to be suffruticose, erect, branched with opposite, square or tetragonous, erecto-patent

APRIL 1ST, 1859.

branches. *Leaves* in opposite pairs, sometimes nearly a span long, including the petiole, ovato-lanceolate, submembranaceous, entire, penniveined, acuminate, attenuated at the base. *Panicle* terminal, with copious *bracts* and *bracteoles,* and composed of many-flowered opposite *racemes* or *spikes.* *Flowers* opposite, sessile. *Calyx* cut nearly to the base into five, narrow, erect, linear-subulate, glanduloso-pilose segments. *Corolla* more than two inches long, scarlet, tubuloso-infundibuliform, curved, very slender and much tapering at the base, inflated or ventricose in the middle, the five triangular lobes of the limb patent and even recurved. *Stamens* included within the tube. *Anthers* with a small spur at the base of each cell. *Ovary* sunk into a large, fleshy, cup-shaped *disc.* *Ovules* about four in each cell.

Fig. 1. Calyx, including the pistil. 2. Stamens. 3. Two-celled anthers. 4. Ovary surrounded at the base by the cup-like fleshy disc:—*magnified.*

5112



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5112.

LINUM PUBESCENS; β. *Sibthorpianum.*

Pubescent Flax; Sibthorpe's var.

Nat. Ord. LINEÆ.—DECANDRIA PENTAGYNIA.

Gen. Char. (*Vide supra*, TAB. 4956.)

LINUM (Dasylinum, *Pl.*) *pubescens;* "annuum, caulibus teretibus lævibus superne corymboso-divisis inter folia densa patenti-pilosulis, foliis alternis intermediis ovato-oblongis basi obtusis apice acutiusculis 5-nerviis præter villos raros submarginales v. in disco sparsos glabrescentibus supremis glanduloso-ciliatis, cymæ compositæ ramis apice confertifloris, sepalis e basi lanceolato-lineari in acumen lineare longum basi subcontinuum et multo longius herbaceum productis piloso-ciliatis subglandulosis, antheris ovato-oblongis basi profunde emarginatis, stylis ad medium connatis, ovario stipitato glabro." *Planch.*

LINUM pubescens. *Russ. Aleppo, ex Schultz. Syst. Veget. v.* 6. *p.* 758. *De Cand. Prodr. v.* 1. *p.* 428. *Planch. in Hook. Lond. Journ. Bot. p.* 519.

Var. β. *Sibthorpianum;* humilius, foliis caulinis oblongis 8-nerviis, corymbi floriferi ramis laxioribus minus ramosis. *Planch. in Hook. Lond. Journ. Bot. v.* 7. *p.* 529. (TAB. NOSTR. 5112.)

LINUM piliferum. *Presl, Fl. Sic. p.* 171.

LINUM Sibthorpianum. *Reuter in Mém. de Gen. v.* 8. *p.* 283. *t.* 3, *ex Walp. Repert. Bot. v.* 1. *p.* 287, *et in Herb. Nostr.*

LINUM decoloratum. *Griseb. Spicil. Fl. Rum. v.* 1. *p.* 117.

LINUM hirsutum. *Sibth. Fl. Græca, t.* 302 (*non Linn.*) *monente Reuter et Grisebach.*

Our knowledge of the species of *Linum* has been considerably increased since the publication of the 'Prodromus' of De Candolle, who enumerated forty-six, independent of "species non satis notæ." But the numerical amount in books must not be considered that of the really good and distinct kinds. The genus required weeding; and our friend Dr. Planchon has done great service to the cause of botany in his excellent 'Revisio Ordinis Linearum,' and this he has elaborated with great industry and perseverance in the 'London Journal of Botany' above quoted. I cannot do better than copy his character and synonyms of the present species, the correct name of which he

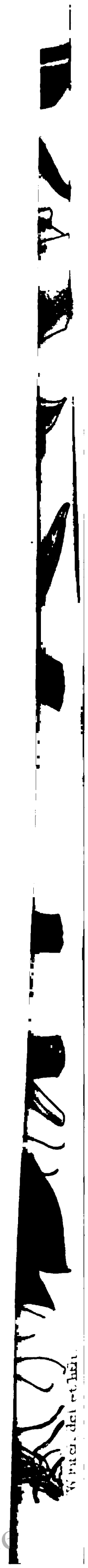
APRIL 1ST, 1859.

has established after a careful examination of Russel's original species in the Banksian Herbarium. The specific character above introduced, and the accompanying figure, render any more minute description needless. The species seems to have an extensive range,—Aleppo, Mount Lebanon (*Herb. Hook.*), Sicily, throughout Greece and the Greek islands, in Macedonia and Bithynia, at elevations of fifteen hundred to seventeen hundred feet above the level of the sea.

The seeds from which our plant were raised, were received from M. Reuter, collected in the plain of Mersina, Cilicia. It is a pretty hardy annual, but the flowers are sadly wanting in that brilliancy of colour which renders the *Linum grandiflorum* (see our Tab. 4956) such a favourite in our gardens.

Fig. 1. Flower, from which the petals are removed. 2. Stamens and pistil. 3. Ovary:—*magnified.*

5113


del. et lith.

TAB. 5113.

ANGRÆCUM SESQUIPEDALE.

Sesquipedalian Angræcum.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4761.)

ANGRÆCUM *sesquipedale;* caule subsimplici radicoso, foliis distiche imbricatis oblongis basi attenuatis carinatis apice obtusissime bilobis, pedunculis axillaribus 2–4-floris, floribus inter maximos albis, petalis sepalisque patentibus subæqualibus e basi latis sensim acuminatis, labello cordato-ovato acuminato marginibus utrinque versus medium grosse crenato-serratis, calcare longissimo flexuoso viridi.

ANGRÆCUM sesquipedale. *Aub. du Pet. Thouars, Hist. des Pl. Orchid. Afr. 8vo, t.* 66 (*flower, nat. size*) *and* 67 (*reduced figure*); *ejusd. Orchid.** (*large folio coloured plates*), *t.* 1, 2. *Lindl. in Gard. Chron.* 1857, *p.* 253 (*with woodcut of the flower, nat. size*).

AERANTHUS sesquipedalis. *Lindl. Gen. et Sp. Orchid. p.* 244.

I spoke of the *Angræcum eburneum* (see our Tab. 4761) with admiration on account of its noble aspect. But it shrinks into insignificance in comparison with the present Madagascar rarity, known to botanists only through the figures above quoted of Aubert du Petit-Thouars (published about 1822), till the Rev. William Ellis, the distinguished traveller and historian of Madagascar, on his last return from that wonderful island, made us acquainted with the living plant, which that gentleman has twice flowered, first in 1857, when the interesting account and figure appeared in the 'Gardeners' Chronicle,' and now again in the winter (February) of 1859, at his residence, Hoddesdon, Herts. There our figure was taken, and though not one of the figures quoted, not even the original ones of Du Petit-Thouars (though there was ample space in the large folio page), exactly warrants the sesquipedalian specific name, still there is enough to excite astonishment in the great size of the flower, and extraordinary length of the spur. The former, in the specimen before us, measures seven inches across, and the spur one foot in length, so that if the spur were set on at the edge of the flower, instead of the middle, it would rather exceed than fall short of the size attributed to it. This flower is of a uniform, pure ivory or yellowish white, and it has the merit of possessing the odour of the white Garden Lily, *Lilium candidum.* The plant continually attracted the attention of Mr. Ellis as he travelled through its native woods; more than one of his photographs includes trunks of trees loaded with this prince of Orchideous plants, and it is frequently the subject of his description and admiration. Indeed no one has travelled in tropical regions, possessed of a greater love of nature, especially of vegetable forms, than this gentleman. It should be borne in mind also that he introduced to our stoves the still more remarkable Lace-leaf, *Ouvirandra fenestralis,* and other rarities.

---

* In neither of these two works of M. Aubert du Petit-Thouars is there any description of the plant. The first of them stops short at the thirty-second page, and before any descriptive matter of the genera and species appears, and Pritzel notices this deficiency. Of the second work, in large folio, with six coloured figures of Orchideous plants of Madagascar (presented to me by the author, and probably never published), Pritzel has no record, nor of any work *in folio* by this author.

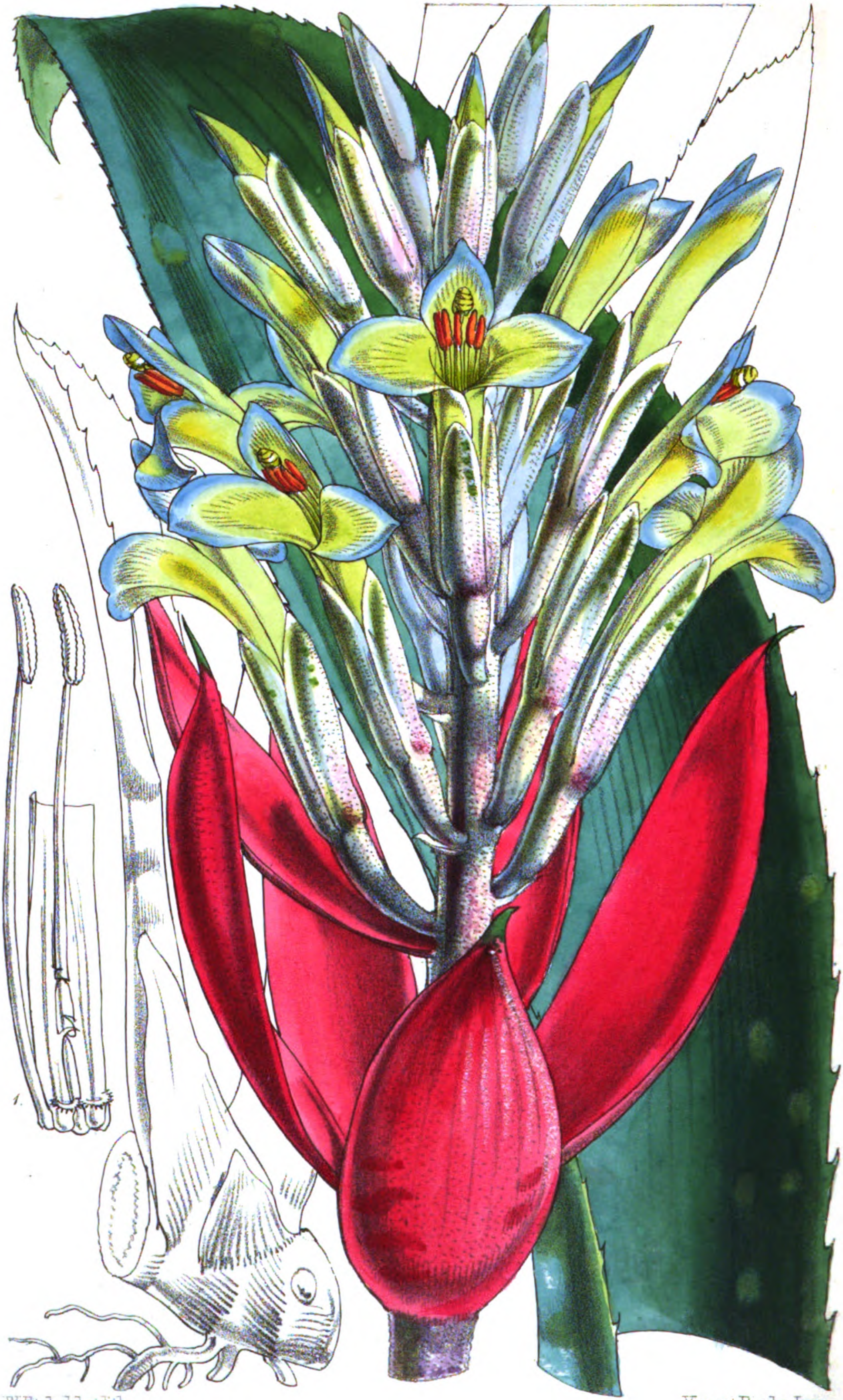
MAY 1ST, 1859.

DESCR. The plant, including the leaves, does not appear to exceed two feet in length,—so that the flowers are sometimes as long as the plant,—simple or bearing one or two branches; attached to the trunks of trees by wiry fibres, rather densely clothed with distichous, spreading, more or less recurved *leaves,* of a broad oblong form, thick and fleshy, dark-green, imbricated, carinated at the base. *Peduncles* solitary, axillary, bearing from two to four gigantic ivory-white fragrant *flowers,* each subtended, at the base of the ovary, by a broad, ovate, coloured *bract.* *Sepals* and *petals* equally spreading, nearly uniform, three inches long, from a broad base, gradually acuminated, somewhat fleshy. *Lip* equal in size with sepals and petals, from a cordate base, ovate, acuminated, near the middle, on each side, coarsely and irregularly serrated; from the base of this, beneath, depends the very long, terete, but gradually tapering *spur,* one foot in length, green in colour. *Column* very short, thick, with two broad wavy wings on each side the stigma, which almost conceal that organ. *Anther-case* helmet-shaped, white, with a narrow orange-coloured margin. *Pollen-masses* two, ovate, waxy, each attached to a somewhat linear *gland.*

Our plate represents a leaf, of the *natural size;* the upper part of a peduncle, with flowers, also *natural size.* Fig. 1. Entire plant, on a very reduced scale. 2. Apex of an ovary, column and anther. 3. Pollen-masses:—*magnified.*

5114

5114



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5114.

BILBERGIA MACROCALYX.

Long-calyxed Bilbergia.

Nat. Ord. BROMELIACEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4756.)

BILBERGIA *macrocalyx;* rhizomate crasso cylindraceo repente, foliis erecto-patulis lato-lingulatis acutissimis concavo-canaliculatis apice planiusculis recurvis remote spinuloso-serratis viridibus pallide maculatis dorso subfastuosis, bracteis amplis ovato-oblongis brevi-acuminatissimis concavis intense roseis, bracteolis subnullis, spica simplici thyrsiformi, ovario infero calyceque biunciali farinosis, sepalis lineari-oblongis, petalis calyce ¼ longioribus spatulatis apice patentibus pallide viridibus ad marginem purpureo-tinctis, squamis petalorum elongatis bidentatis ad basin squamula ciliata auctis.

None of the described *Bromeliaceæ*, whether under *Puya*, *Bilbergia*, or *Tillandsia* (for the genera need a thorough revision to render them intelligible), seem to correspond with this species, which our garden owes to the kindness of our friend J. Wetherell, Esq., when he was our Consul at Bahia, where it it is a native on the mossy branches of trees. Brazil indeed seems to abound in novelties of this family; and we have had more than once occasion to remark how well the species are worthy of cultivation, from the great beauty of the flowering spikes: the beauty however is generally due more to the rich colouring of the large bracts, or spathes as they are sometimes called, than to that of the blossoms. The present one may vie with any other in this particular, and will rank near to our *B. Wetherelli* (see our Tab. 4835), and still more near perhaps to *B. thyrsoidea* (Tab. Nostr. 4756); but is very distinct from both.

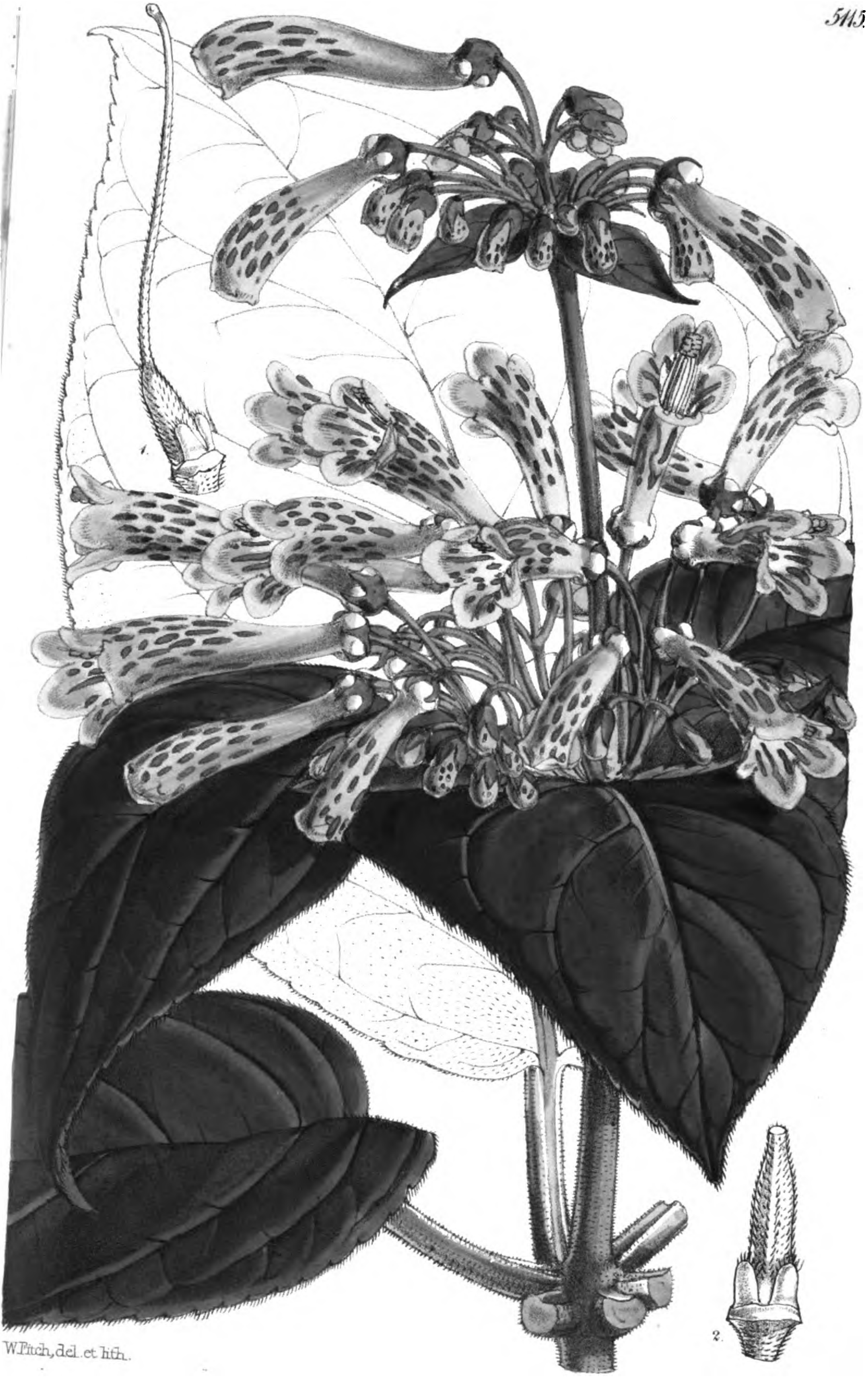
DESCR. *Rhizome* thick, elongated, terete. *Leaves* a foot or a foot and a half long, broad-lingulate, erecto-patent, canaliculately concave, swollen and inflated, as it were, at the amplexicaul base, plane towards the apex, and recurved at the very acute or shortly acuminated point; the margin is rather remotely spinu-

MAY 1ST, 1859.

loso-serrate; the *colour* darkish-green, with scattered pale spots, somewhat transversely fasciated at the back. *Spikes* simple, but thyrsiform; below are several large, laxly imbricated, very concave, deep rose-coloured *bracts*. *Bracteoles* at the base of each flower small, deciduous. *Rachis* and *calyx* very farinoso-tomentose. *Ovary* quite inferior. *Sepals* very large, linear-oblong, erect, appressed. *Petals* one-third larger than the calyx, spathulate, light yellow-green, edged with pale blue livid-purple. *Scales* of the petals very long, each two-toothed, and with ciliated appendages at the base. *Anthers* bright-orange.

Fig. 1. Base of a petal, with scales, and two stamens,—*magnified*.

5115



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5115.

GESNERIA PURPUREA.

Purple-flowered Gesneria.

Nat. Ord. GESNERIACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. (*Vide supra*, TAB. 4217.)

GESNERIA *purpurea;* herbacea molliter velutino-pubescens, caule simplici inferne nudo, foliis verticillatis cordato-ovatis grosse serratis, pedunculis copiosis axillaribus terminalibusque verticillatis simplicibus rarius prope basin divisis, floribus nutantibus, calycis parvi dentibus seu laciniis brevibus erectis angusto-triangularibus, corollæ elongatæ tubuloso-infundibuliformis roseo-purpureæ maculatæ subclavatæ tubo lateraliter compresso basi 5-saccato, limbo subæqualiter 5-lobo, lobis erecto-patulis superiore bifido, glandulis hypogynis 2 ovatis.

GESNERIA purpurea. *Paxt. and Lindl. Fl. Gard. n.* 4. *t.* 78.

GESNERIA verticillata. *Hook. Bot. Mag. t.* 2776, *a weak and imperfect specimen* (*not Cav.*).

GESNERIA Douglasii, (*var.* verticillata.) *Hook. Bot. Mag. t.* 3612. *Hensl. in Maund's Botanist*, 5. *t.* 247, *not* G. Douglasii, *Lindl. Bot. Reg. t.* 1110 *(from which the syn.* D. verticillata, *Hook., should be excluded), nor of Lodd. Bot. Cab. t.* 1939, *nor Van Houtte, Fl. des Serres, t.* 10. *t.* 1009.

DIRCÆO-GESNERIA purpurea. *Planch. in Van Houtte, Fl. des Serres, t.* 1046.

Notwithstanding that the 'Botanical Magazine' exhibits two figures of this species of *Gesneria* already, yet I venture to give a third; firstly, because this fine variety richly deserves a place; secondly, because it gives an opportunity of correcting errors of my own, and, as I conceive, those of my friends also, who have treated on this plant. The first appearance of it in the 'Magazine' is at Tab. 2776, under the name of *Gesneria verticillata*, from a very weak plant, with only two terminal flowers, which the late Mrs. Arnold Harrison received from hills about Rio Janeiro. The previous year, namely, in 1826, Dr. Lindley had named, what he was afterwards led to consider the same plant, *G. Douglasii;*—the name of *G. verticillata*, too, having been previously occupied by a plant of Cavanilles. This plant of Lindley is well figured in Bot. Reg. t. 1110; and since by Van Houtte and Loddiges, under the correct name of *Douglasii*. A remarkably fine specimen of my *G. verticillata*, imported by Mr. Allcard, from

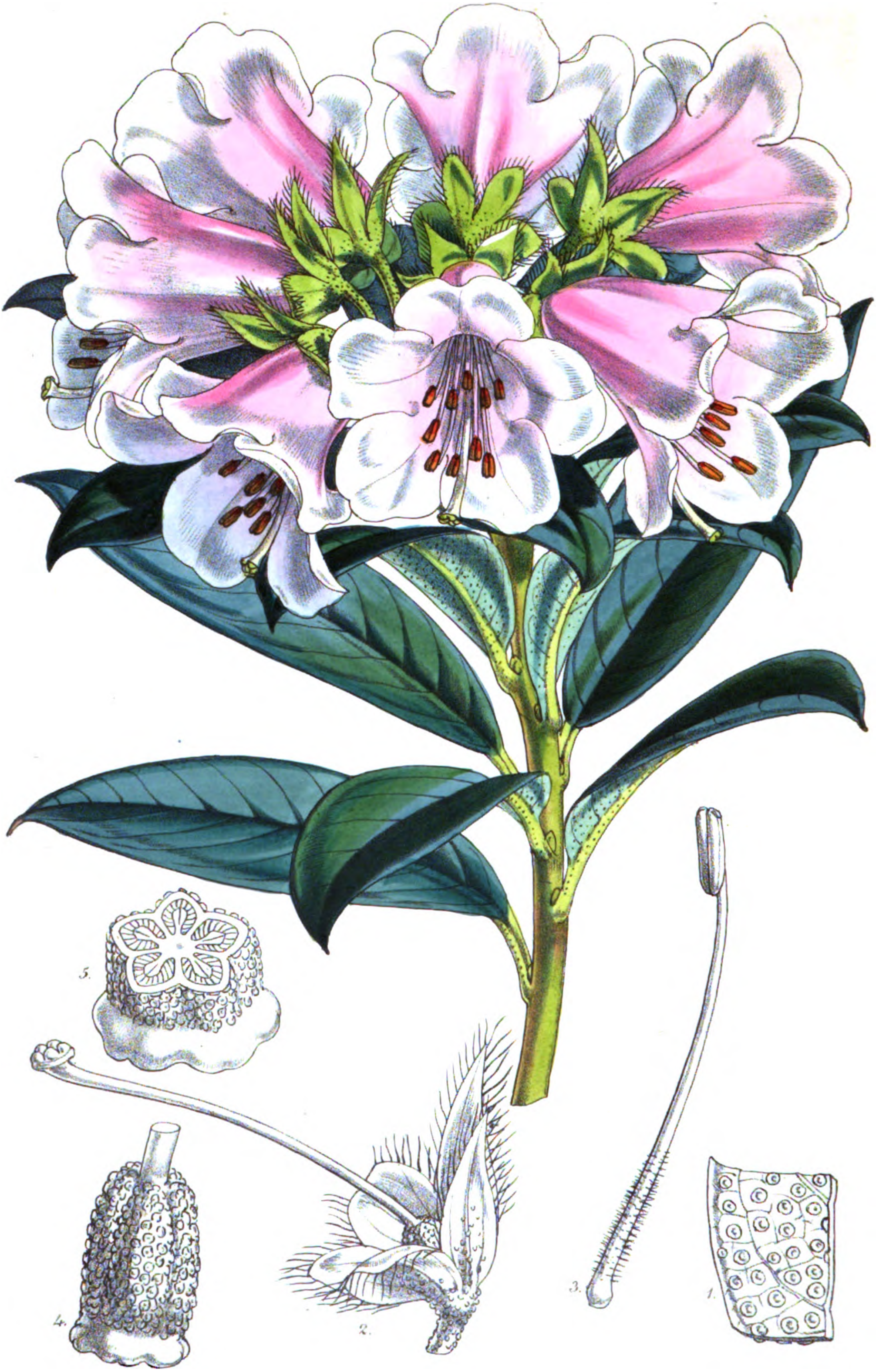
MAY 1ST, 1859.

Rio, was sent to me in 1836, and finding it to differ from Lindley's *G. Douglasii* in the peculiarly verticillate and generally simple peduncules of the flowers, I called it *G. Douglasii*, var. *verticillata;* and I remarked,—"In Professor Lindley's plant the inflorescence is a decided panicle; in ours the peduncles, generally simple, are arranged in dense whorls, many of them quite simple, others very slightly branched, and only near the base. Our flowers too are larger than in that figure, and more inclining to a purple tint." I may here add that in our plant the corolla is subclavate and decidedly curved; in Lindley's plant the tube is quite straight, and the limb more patent.

During the present winter my attention has been directed to a state or variety of this plant, which has been the pride and ornament of our stoves during the winter months. Of it we received the tubers from Mr. Millosovich, of Rio Janeiro, last year; and I was not a little surprised to find it taken up as a new species, both by Dr. Lindley, in Paxton's 'Flower Garden,' under the name of *G. purpurea*, and by Dr. Planchon, in the 'Flore des Serres,' under that of *Dircæo-Gesneria purpurea;* the former, its introduction being unknown to him, suspects it to be a hybrid, "perhaps between *G. Douglasii* and *G. discolor;*" the latter traces its parentage, but unaccompanied by any proof, to *Gesneria Douglasii* and *G. (Dircæa) lobulata* (a rich scarlet-flowered species) of both of which excellent figures are given by the author in the same volume. To Dr. Lindley is due the merit of distinguishing the *G. purpurea* as a species; and since I am able to prove that this has been imported three different times and by as many different persons, direct from the Brazils, I think a legitimate parentage will be henceforth conceded to it. I may add too that my herbarium possesses native specimens of both the species now under consderation, gathered by Gardner, in Brazil, and exhibiting all the characters, as figured and described by Lindley. The one is n. 251, of Gardner's Herb. Bras., from the trunks of trees, on the Pedra Bonita Tejuca, 1836, and correctly named "*Gesneria Douglasii*, Lindl." The other is his n. 466, from the Organ Mountains, marked *Gesneriæ sp.* "At all events," Dr. Lindley concludes, "*G. purpurea* is one of the most striking of the whole race to which it belongs," and we heartily concur with him in that opinion.

Fig. 1. Pistil glands,—*magnified.* 2. Ovary and glands,—*more magnified.*

5116



W Fitch, del. et lith.
Vincent Brooks, Imp.

TAB. 5116.

RHODODENDRON WILSONI (*hybridum*).

Wilson's Rhododendron (a hybrid).

Nat. Ord. ERICEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4336.)

RHODODENDRON *Wilsoni* (hybridum); foliis elliptico-lanceolatis acutis glaberrimis subtus pallidis squamulosis, floribus umbellatis, calycis membranacei ampli lobis inæqualibus ovatis longissime ciliatis, ovario oblongo dense squamuloso.

RHODODENDRON Wilsoni (*hybridum*). *Nuttall, MSS.*

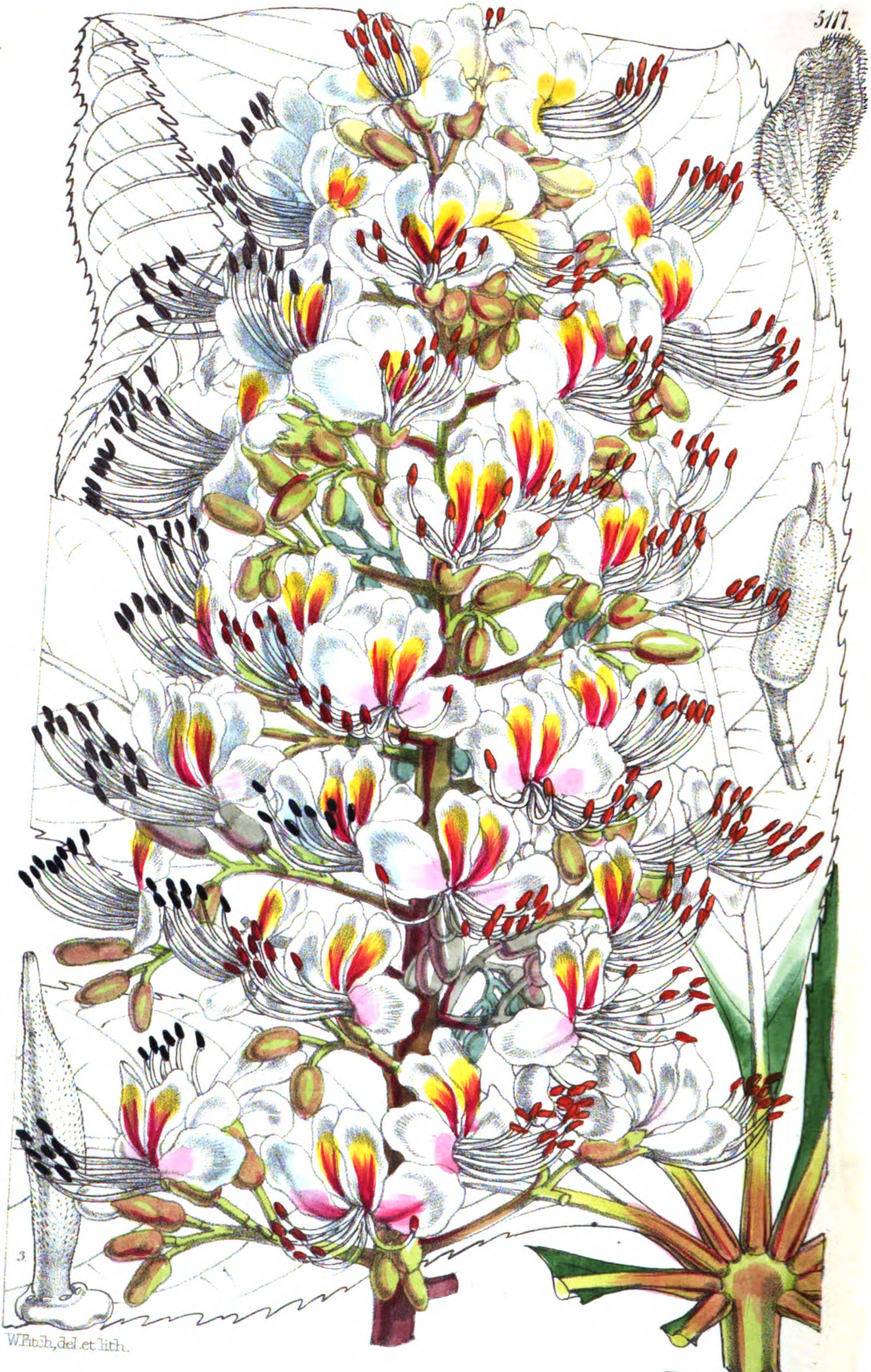
Flowering specimens of the present *Rhododendron* were received from Thomas Nuttall, Esq., of Nutgrove, Rainhill, Lancashire, in February, 1859, accompanied by the following note: —"I beg to dedicate this plant to our mutual friend William Wilson, Esq., the eminent cryptogamist, with whom we have been so long acquainted. It is derived from a cross betwixt *R. ciliatum* and *R. glaucum*, and, as you perceive, possesses an intermediate character between the two, having the foliage of *R. ciliatum*, without the hairs; and it is destitute of the glaucous hue of the last-named species. The corolla, too, is intermediate, being longer than *R. glaucum*, but with a prevalence of the same rose-colour, not verging to white, as in *ciliatum*. It will probably prove as hardy as *glaucum*, though our plant has at this season been brought forward by artificial heat.—T. N."

Fig. 1. Portion of the under side of a leaf, showing the little scales. 2. Calyx and pistil. 3. Stamen. 4. Ovary. 5. Transverse section of ditto:—*magnified*.

MAY 1ST, 1859.

5117

5117.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5117.

ÆSCULUS INDICA.

Indian Horse-chestnut.

Nat. Ord. HIPPOCASTANEÆ.—HEPTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 5077.)

ÆSCULUS (§ Pavia) *Indica;* staminibus 5–8 corolla longioribus, petalis inæqualibus subsecundis obovato-spathulatis sinuatis dorso villoso-tomentosis, calyce tubuloso subæqualiter 5-dentato bilabiato, labiis clausis, thyrso laxifloro, foliis amplis, foliolis 9 lato-obovato-lanceolatis grosse serratis glabris in petiolulum longum basi attenuatis.

PAVIA Indica. *Colebrooke's MS. in Herb.* 1824. *Wall. Cat. n.* 1188. *Jacquemont, Plant. Rar. Ind. Or. p.* 3. *t.* 35.

It is not a little remarkable that, although this handsome *Æsculus* was distributed by Dr. Wallich as long ago as 1828, and recorded in his well-known 'Catalogue' as *Pavia Indica* of Colebrooke's MS., and as a native of Kamaon (*Blinkworth*) and of Sirmore (*S. Webb*), it was never described nor further noticed by any author till the appearance of the 'Plantæ Rariores quas in India Orientali collegit Victor Jacquemont: auctore J. Cambessèdes,' in 1844.

"India borealis" is popularly given for the native country of our common Horse-chestnut (*Æsculus Hippocastanum*), but Dr. Royle assures us that "Its native region is still unknown; it is not enumerated in Dr. Wallich's catalogue, nor has it ever been distributed by him. I have never met with it, though often visiting the northern mountains of India, where, if anywhere, it was likely to be found, and where the nearly allied Indian *Pavia** is so abundant." The *Pavia* (or *Æsculus*) *Indica*, or Indian Horse-chestnut, which we now figure, that author further says, "is called by the hill-people *Hunour* and *Pangla*, and is found on mountains, at elevations of from 8000 to 10,000 feet, in Kamaon, Gurhwal, and Sirmore, also near the sources of

* Generally considered a mere section of *Æsculus*, distinguished by its unarmed fruit.

MAY 1ST, 1859.

the Ganges, and in Kunawur. It is a lofty and not less ornamental tree than the common Horse-chestnut. The bulky seed, containing a large proportion of fæcula, though combined with some bitter principle, is eaten in the Himalayas, as those of the Horse-chestnut have been in other parts of the world in times of famine. The bark of the latter, from its astringent properties, being employed as a tonic and febrifuge, it is worthy of inquiry whether the Himalayan species of *Pavia* is possessed of any of the same properties."

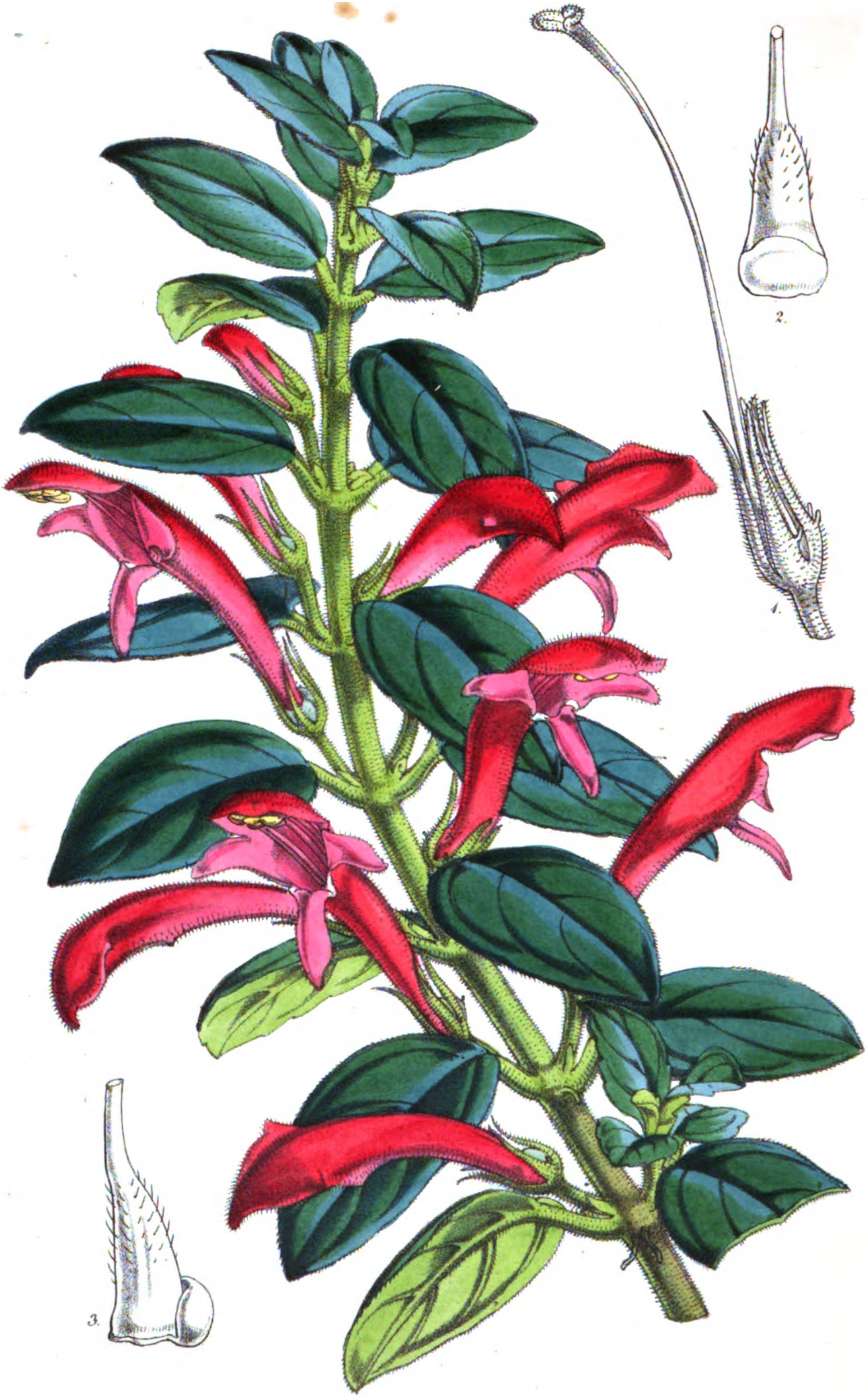
We owe the specimen here figured to C. J. Fox Bunbury, Esq., who transmitted it to us from the family seat at Mildenhall, Suffolk, in July of last year (1858). It was taken from a tree raised from seeds sent by his brother, Colonel Bunbury, from the north of India, sixteen feet high, the circumference of its stem eight inches; its age from the sowing of the seed seven years; and it had on it, at this early age, twelve panicles of flowers. Of the hardiness of the tree in our climate there can be no question. Two or three years ago the first flowers were produced, when specimens were also kindly communicated to us by Sir Henry Edward Bunbury, K.C.B.

Descr. This forms a good-sized *tree* in its native country, much branched. The *branches* rounded, glabrous. *Leaves* ample, opposite, on long foot-stalks. *Leaflets* seven to nine, spreading, rather long, all petiolulate, broad-lanceolate, serrated, subacuminate, dark-green, above subglaucous, beneath firm and subcoriaceous when dry; *terminal leaflets* the largest, almost a foot long. *Flowers* numerous, in terminal, thyrsoid, rather lax *panicles* at the apices of the branches. *Calyx* downy, nearly cylindrical, somewhat angular; superior lip 3-toothed, inferior bidentate. *Lips* erect (not spreading). *Petals* five, unequal, oval or obovate, clawed, very downy on the back, spreading but not regularly subsecund; a fifth petal is often wanting (the lower one), the colour is white, the two superior and narrow ones having a blotch of red and yellow at the base, the lateral ones blush-coloured there. *Stamens* five to eight, scarcely longer than the petals, spreading. *Anthers* ovate, with a short blunt spur at the base of each cell. *Pistil: ovary* oblong, downy; *style* subulate, downy; *stigma* obtuse.

Fig. 1. Stamen. 2. Calyx, with pistil included. 3. Pistil, with hypogynous gland:—*magnified.*

5118

5118.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5118.

COLUMNEA SCANDENS.

Climbing Columnea.

Nat. Ord. GESNERIACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. Calyx liber, 5-partitus. *Corolla* tubulosa, rectiuscula, basi postice gibba, ringens, *lobis* superiore erecto fornicato, inferiore trifido patente. *Stamina* 4, didynama, antheris connexis, quinti postici rudimentum. *Glandulæ* 1–5 circa basin ovarii. *Bacca* 1-locularis, placentibus 2-parietalibus bilobis. *Semina* oblonga.—Frutices *Americani, flexiles, erecti aut scandentes.* Folia *opposita, brevi-petiolata, crassiuscula, subserrata, hirsuta vel pubescentia.* Pedunculi *axillares, solitarii aut conferti.* Corolla *coccineæ. De Cand.*

COLUMNEA *scandens;* hic illic radiculosa herbaceo-suffruticosa, ramis obtuse tetragonis pedunculisque tomentosis, foliis brevi-petiolatis ovatis ovato-oblongisve integerrimis vel calloso-serratis pubescentibus, pedunculis axillaribus unifloris petiolo longioribus, calycis pubescentis profunde 5-partiti laciniis lineari-subulatis basi dente uno alterove instructa, corollæ coccineæ villosæ profunde bilabiatæ, labio superiore maximo trifido, lobo intermedio amplo fornicato, inferiore parvo integro reflexo, glandula hypogyna magna solitaria.

COLUMNEA scandens. *Linn. Sp. Pl. p.* 891. *Sw. Obs. Bot. p.* 249. *Jacq. Hort. Vind. v.* 3. *p.* 27. *t.* 48. *Bot. Reg. t.* 805 (*vix Bot. Mag. t.* 1614). *Mart. Nov. Gen. Pl. Bras. p.* 65. *t.* 226. *f.* 2.

COLUMNEA rotundifolia. *Salisb. Paradis. Lond. t.* 29.

COLUMNEA speciosa. *Presl, Bot. Bemerk. p.* 145.

COLUMNEA scandens, phœniceo flore, fructu albo. *Plum. Gen. p.* 28; *Ic. p.* 89. *f.* 1.

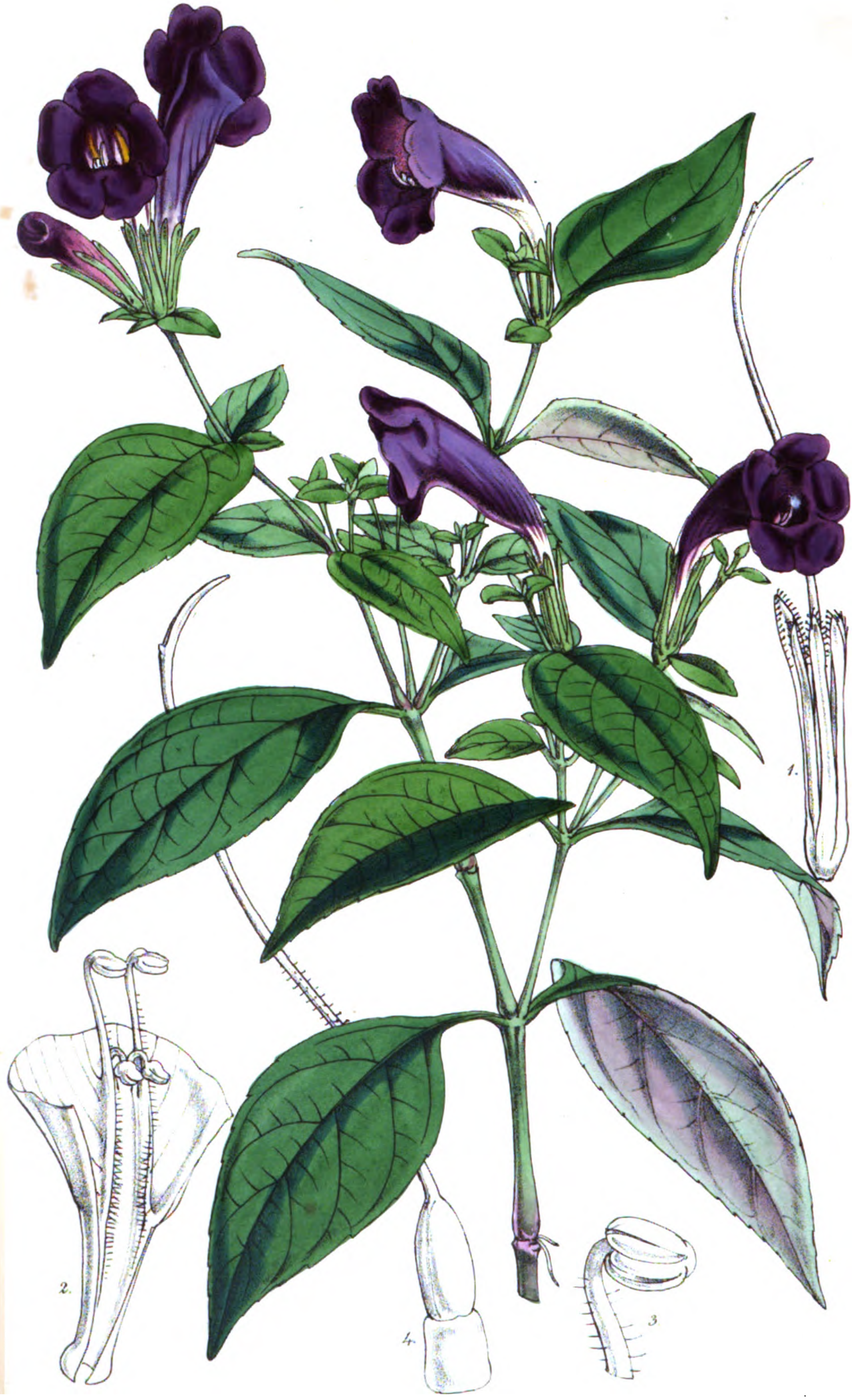
A handsome plant, frequent in the West India Islands, liable to some slight variations in the leaves, and in the depth or paleness of colour of the flowers, but not sufficient to justify the separation of *C. rotundifolia,* as was done by Salisbury, or the *C. speciosa* by Presl, as distinct species. The *C. scandens* of Sims in Bot. Mag., if intended for this plant, is a miserable representation, and widely different in habit and in the colour of the flowers, and in the form of the corolla and calyx. Our plant succeeds well cultivated in a basket suspended from the roof of a moist stove.

JUNE 1ST, 1859.

Descr. A scandent species, but to a moderate extent; the base of the stem becoming fruticose in age, the rest is herbaceous, obtusely quadrangular, downy, as is more or less the whole plant, rooting occasionally at the joints, branched; *branches* opposite. *Leaves* opposite, with short stout petioles, about half an inch long; ovate or oblong-ovate, thick, fleshy, acute or subobtuse, downy on both sides, the margin entire or calloso-serrate, penninerved, dark-green above, paler beneath. *Peduncles* axillary, longer than the petioles, single-flowered. *Calyx* of five, deep, lineari-subulate, erect segments, having at the base on one side one or two soft spine-like teeth. *Corolla* more than two inches long, dark flesh-colour, deep-red above, villous; the *tube* moderately curved and laterally compressed, tapering towards the base; *limb* of two very unequal *lips; upper lip* very large, three-lobed; lateral lobes spreading, small, oblong; intermediate one very large, fornicate (of two combined?); *inferior lip* small, reflexed, ligulate, with a little plication on each side at the base, which resembles a tooth. *Stamens* included, the anthers lodged within the central lobe of the superior lip. *Ovary* oblong, oblique, a little curved, villous, with a large fleshy gland applied to the superior base. *Style* as long as the stamens, slender, filiform. *Stigma* of two lobes.

Fig. 1. Calyx and pistil. 2. Ovary and gland, seen from the back. 3. Side view of the same:—*magnified.*

5119



W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5119.

GOLDFUSSIA THOMSONI.

Dr. Thomson's Goldfussia.

Nat. Ord. ACANTHACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. (*Vide supra*, TAB. 4767.)

GOLDFUSSIA *Thomsonii;* caule glaberrimo herbaceo gracili, apicibus ramorum calycibusque glanduloso-pilosis, foliis lanceolato- v. elliptico-ovatis utrinque acuminatis serratis subtus pallidis paribus supremis inæqualibus, floribus ad apices ramulorum 1–5 sessilibus v. pedunculo rarius elongato subspicatis, sepalis anguste linearibus, corollæ tubo gracili basi albo dein lobisque intense violaceo-purpureis.

This pretty species, of which seeds were sent by Dr. Thomson from the Sikkim-Himalaya, belongs to an intricate group of the genus, including *G. discolor*, *Dalhousiana*, and *penstemonoides*, from all of which it differs in its more slender habit, fewer almost invariably terminal flowers, and slender tube of the deep violet-purple corolla; it also approaches very nearly some states of the variable *G. Wallichii* (*Strobilanthes Wallichii*, Nees), but that plant has a much more tumid corolla, with a broader tube and narrower limb. All these and many others of the genus are well worthy of cultivation, from the beauty and abundance of their blossoms, which are produced in succession for several weeks. The *G. Thomsoni* has been gathered by Drs. Thomson and Hooker in Garwhal (west of Nepal), in Sikkim, at elevations of 6–9000 feet, and in the Khasia Mountains, if we are right in our identification of these specimens, which in a dried state is a matter of great difficulty.

DESCR. A small, herbaceous perennial, of upright growth and lax habit. *Stems* slender, glabrous, a foot or two high, sparingly branched. *Leaves* two to three inches long, the lower pairs petioled and nearly equal, the upper sessile and very unequal, all ovate or elliptical, lanceolate, with tapering points, and serrated margins, nearly smooth, or with a little scattered pubes-

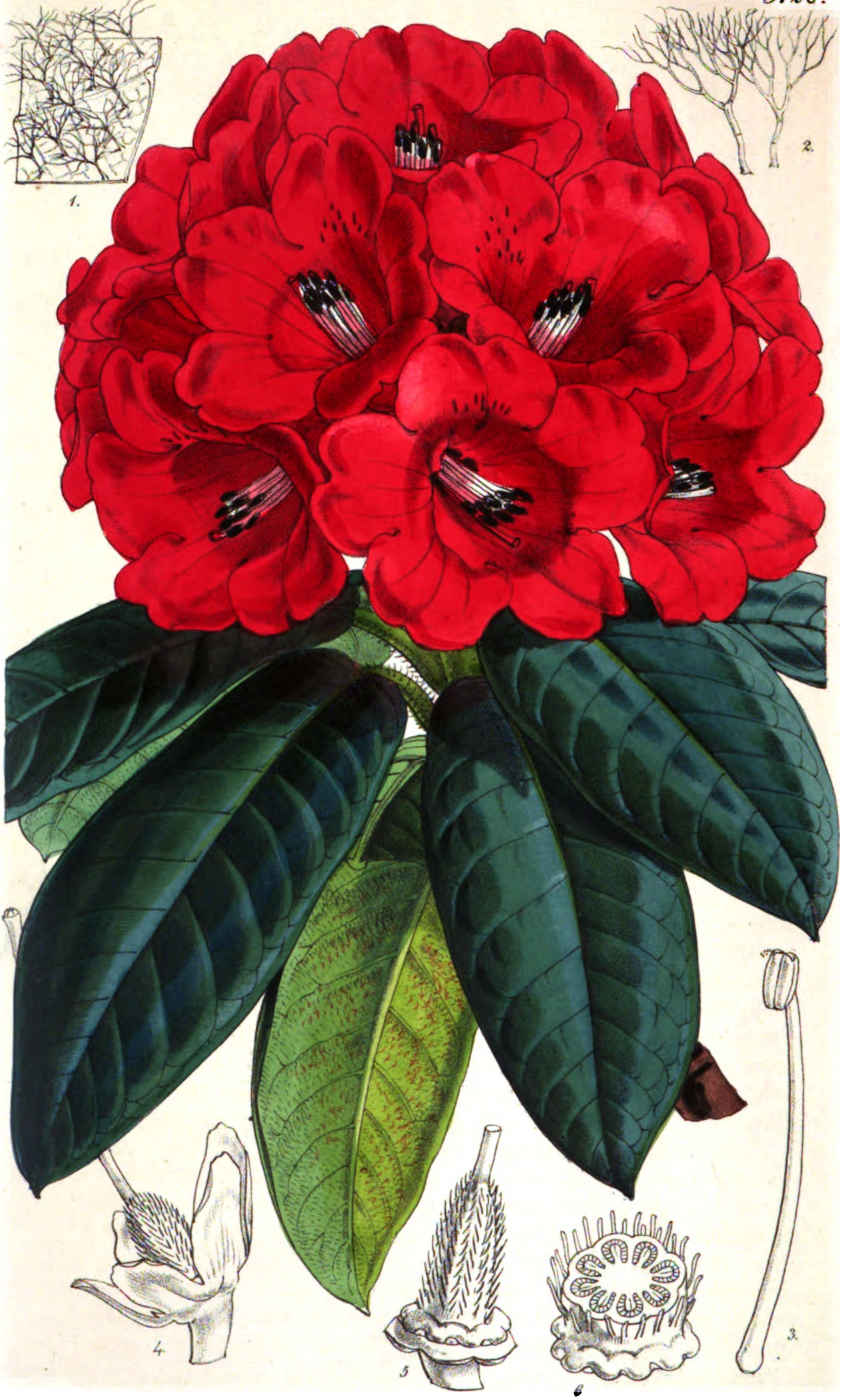
JUNE 1ST, 1859.

cence. *Flowers* generally sessile, in twos, threes, and fours at the ends of the ramuli, sometimes forming alternate fascicles on an elongated peduncle, and there constituting a short spike. *Calyx-segments* narrow-linear, blunt, with glandular hairs. *Corolla* curved; tube slender; throat long, gradually dilated, funnel-shaped, with deep oblique grooves on the sides; limb of five, short, spreading lobes.

Fig. 1. Calyx and style. 2. Lower part of corolla, cut open, showing the stamens. 3. Stamens. 4. Ovary and disc.

5120

5120.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5120.

RHODODENDRON SMITHII.

Sir James Smith's Rhododendron.

Nat. Ord. ERICEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra,* TAB. 4336.)

RHODODENDRON *Smithii;* frutex humilis, foliis oblongo-ellipticis coriaceis acutis rugosis impresso-venosis basi cordatis margine revolutis supra glabris subtus pallidioribus pilis articulatis supra medium repetitim dichotomo-ramosis laxe tomentosis, petiolis setosis, umbellis terminalibus plurifloris capitatis, calyce subamplo laxo membranaceo, lobis ovalibus inæqualibus glabris, corolla coccinea lato-campanulata subæqualiter quinquelobo, staminibus 8, filamentis rectis subinclusis, ovario subcylindraceo pilis subclavatis erectis obsito.

RHODODENDRON Smithii. *Nutt. MS.*

From a drawing made by Mr. Holden, of Warrington, at Nutgrove, Rainhill, Lancashire, where this plant flowered for the first time in March, 1859. It was discovered and introduced to England by Mr. Booth, who detected it on the northern slopes of the Lablung Pass, Bootan, in company with *R. Hookeri,* Nutt., and like that it promises to be hardy in our climate. Its affinity is with *R. barbatum,* and it is remarkable for the nature of the tomentose clothing of the under side of the leaves. Each hair is jointed, stout at the base, rather copiously and dichotomously branched, as is shown at our Figures 1 and 2. Mr. Nuttall desires it should bear the name of the late Sir James Edward Smith, who was the first to call public attention to its ally the Indian *Rhododendron arboreum,* now so well known in our gardens.

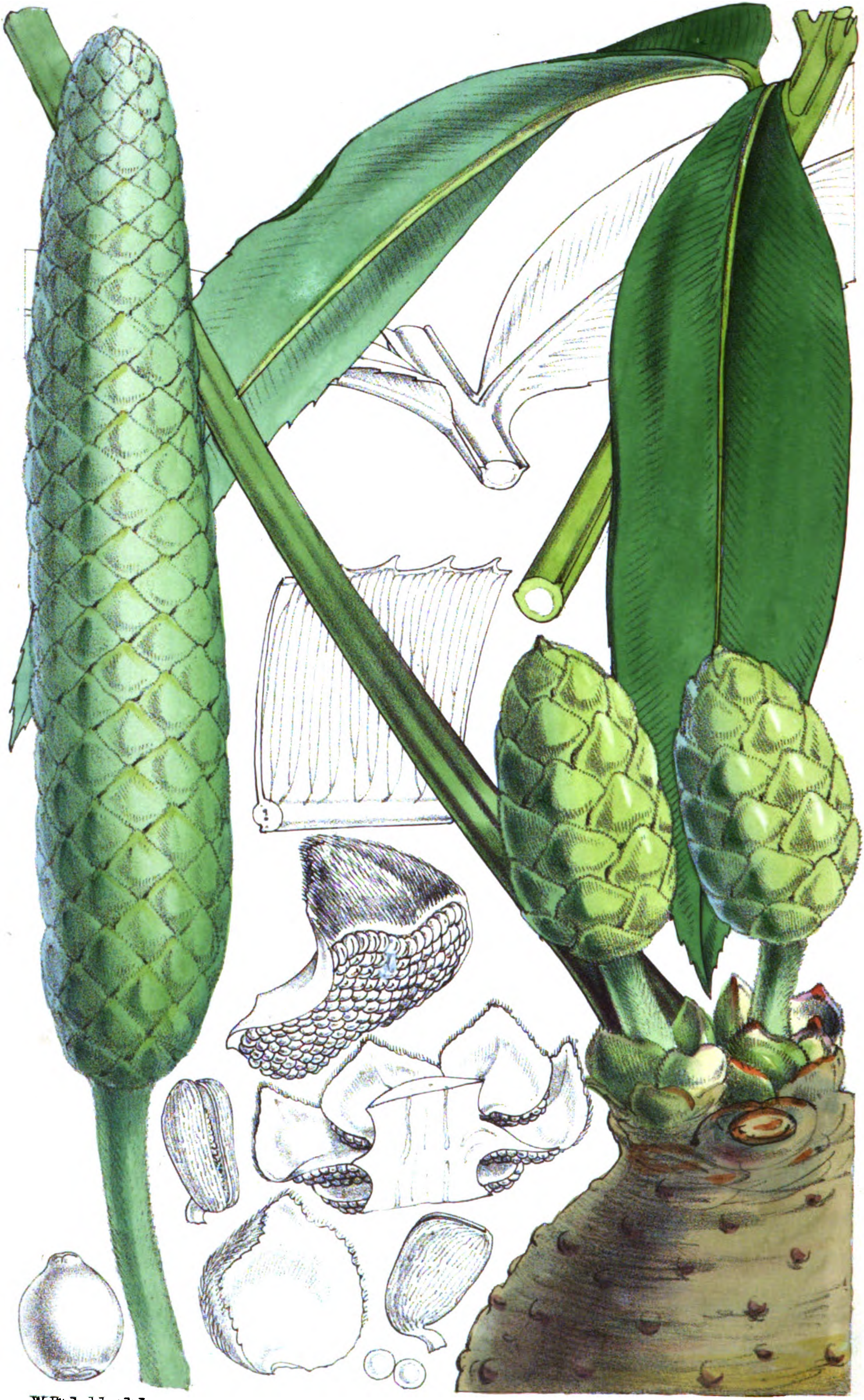
DESCR. A low, branching *shrub,* with much the habit and general aspect of the original *R. arboreum* and *R. barbatum. Leaves* a good deal clustered about the extremities of the branches, elliptical-oblong, acute, cordate at the base, the margins entire and reflexed; above strongly veined, dark-green, beneath pale-green, laxly woolly with rather sparse, jointed *hairs,* which are stout at the base, above repeatedly and dichotomously branched. *Bracteal scales* silky. *Corymb* or *umbel* of ten to

JUNE 1ST, 1859.

twelve or thirteen flowers, forming a terminal globose head. *Calyx* membranaceous, deeply cut into five, very unequal, moderately spreading *lobes*. *Corolla* as in *R. arboreum*, red, with five nearly equal spreading rounded *lobes*, notched at the apex. *Stamens* eight, erect, compact. *Anther* small. *Ovary* cylindrical, furrowed, clothed with clavate erect hairs, slightly sunk in a waved fleshy annulus. *Style* a little longer than the stamens.

Fig. 1. Portion of the under side of the leaf, with branched hairs. 2. Two of these hairs. 3. Stamen. 4. Calyx and pistil. 5. Ovary. 6. Transverse section of ovary:—*magnified*.

5121



W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5121.

STANGERIA PARADOXA.

The Fern-leaved Stangeria.

Nat. Ord. CYCADEÆ.—DIŒCIA POLYANDRIA.

Gen. Char. Flores amentacei. AMENT. MASC. cylindracea. *Stamina* numerosa, superficie inferiore squamæ inserta, cuneato-quadrata, breviter stipitata. *Pollen* globosum. AMENT. FŒM. ovoidea v. breviter cylindracea. *Ovula* 2, inversa, cavitate in basin squamæ utrinque solitaria inserta. *Fructus ?*—Planta *humilis, caudice (caule) brevi rapiforme vix cicatricata;* foliis *paucis, e apice caudicis evolutus, vernatisve inflexis, pinnatis, glaberrimis;* pinnis *oppositis, sub-12-jugis, oblongo-lanceolatis, acuminatis, ultra medium spinuloso-serratis; (iis* Lomariæ *simillimis);* costa *valida;* venis *costæ perpendicularibus, creberrimis hic illic furcatis;* petiolo, bracteis *ad basin amentorum*, amentis*que dense lanatis;* amentis *breve pedunculatis;* squamis *magnis, arcte imbricatis, late obovato-trapezoideis, genitalia omnino velantibus.*

STANGERIA paradoxa. *T. Moore in Hook. Kew Gard. Misc. v.* 5. *p.* 228. *J. Smith, l. c. v.* 4. *p.* 88.

LOMARIA coriacea. *Kze. in Linnæa, v.* 10. *p.* 506 (*not Schrad.*).

LOMARIA eriopus. *Kze. in Linnæa, v.* 10. *p.* 152. *et v.* 18. *p.* 116.

This very remarkable plant, which in its habit and foliage resembles no other of the Natural Order to which it belongs, was first in 1835 imperfectly noticed by Kunze as a South African Fern (*Lomaria*), and was sent by Dr. Stanger from Natal to N. B. Ward, Esq., and by him given to the Chelsea Botanic Gardens long after, viz. in 1851. It was first described by Mr. Moore, from imperfect specimens, as a "Zamia-like Fern," or "Fern-like Zamia," and the opinion expressed that its affinity appears to be rather with *Cycadeæ* than Ferns, which has since proved to be quite correct. In 1854 specimens with cones were exhibited to the Linnæan Society by Mr. Stevens (Proc. Linn. Soc. v. 2. p. 340), and since then both male and female ones have been produced at Kew, but unfortunately not in the same year. Of these, a pair of female ones, formed in April, 1858, produced perfect ovules, and withered away; and in the same month of the present year another plant produced the male cone figured in our Plate. Our specimens were received from Mr. Plant.

JUNE 1ST, 1859.

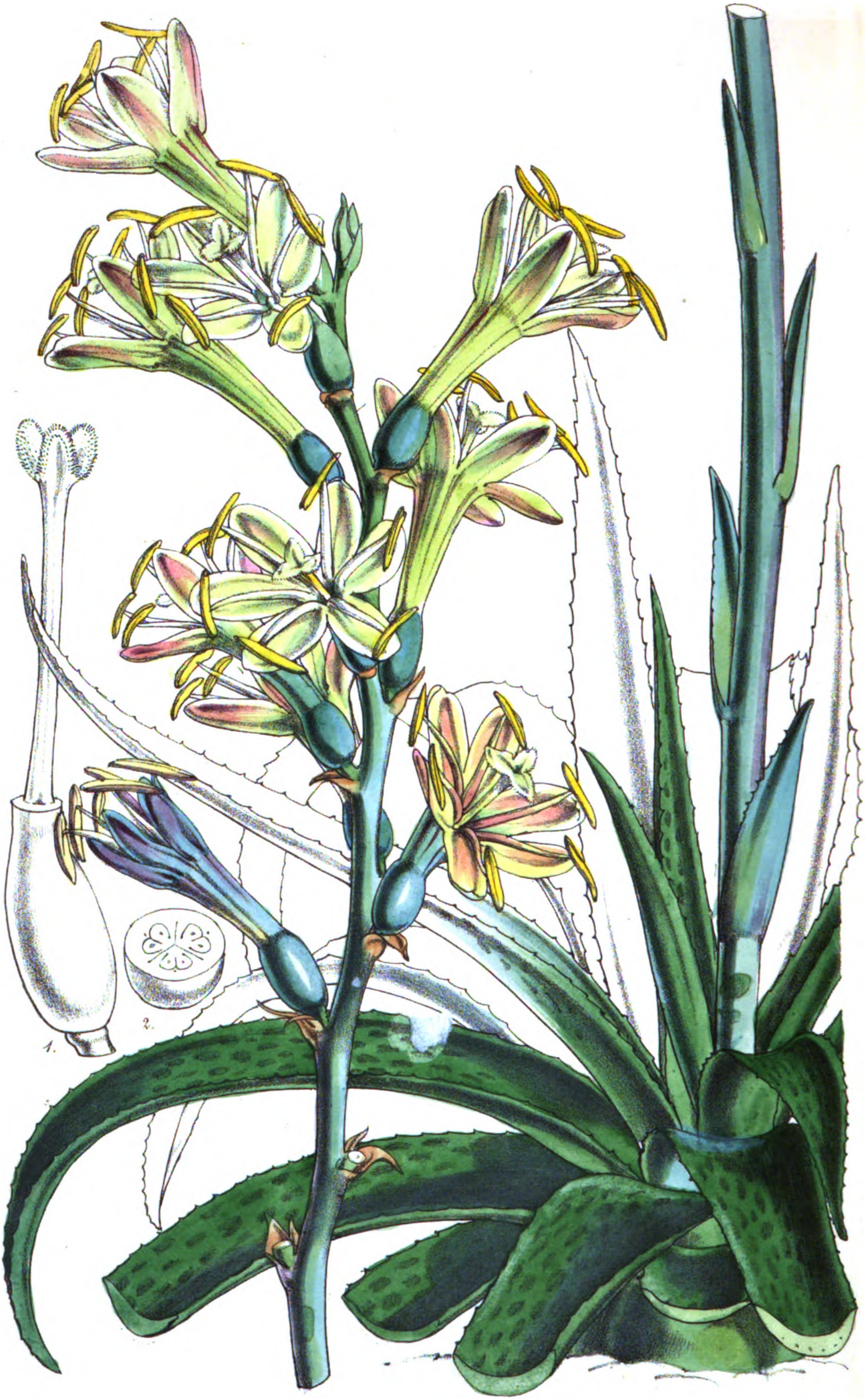
The affinity of *Stangeria* is very close to *Encephalartos*, nor is there any structural difference of importance between the fructifications of these genera; in habit and foliage, on the other hand, they widely differ, and most conspicuously in the short, turnip-like stem of *Stangeria*, that bears no persistent bases of the fallen leaves, in its few terminal leaves, and in the Fern-like venation of its pinnæ. This difference between the venation of the pinnæ of *Encephalartos* and *Stangeria* is very analogous to that between the species of *Podocarpus* with Dammara-like foliage, and those whose leaves have a midrib.

Mr. Smith, in his paper on *Stangeria*, after showing that *Stangeria paradoxa* was first referred to *Lomaria coriacea* of Schrader by Kunze, in the Linnæa, and that he subsequently made a new species of it as *L. eriopus*, also in the Linnæa, gives some valuable remarks on the venation of the frond of this and other *Cycadæ*. I have hitherto had no opportunity of examining a caudex of this singular plant, but I find the vascular bundles of the leaves to be formed of annular ducts surrounded by elongated cells, and also that there is a thick layer of wood-cells immediately below the cuticle of the stipes. The cuticle of the under surface of the pinnæ abounds in large stomata, and the cuticular cell-walls are much undulated. Globular white concretions with granulated surfaces, occur abundantly in the cellular tissue of the stipes, and are probably composed of oxalate of lime.

Descr. *Caudex* about a foot long, tapering to the base, and terminating in a few roots; contracted at the apex, and there giving off three to six leaves. *Bracts* few, imbricating, broadly ovate, blunt, woolly. *Leaves* spreading, two feet long by one broad, glabrous except at the woolly base of the petiole. *Leaflets* about twelve pair, opposite, the lower petiolulate, the upper sessile, with a broad, adnate, decurrent base, smooth, glossy, bright-green; margin serrated beyond the middle, slightly thickened, pinnately veined. *Veins* reaching the margin, all free. *Male cone* on a long, terete peduncle, six inches long by one and a quarter broad, blunt; apices of scales woolly, trapeziform. *Anthers* very numerous, yellow. *Female cones* similar to the males, but much shorter, about two to three inches long. *Scales* similar to the males externally, but shorter, more concave, broadly ovate when looked at on the inside, with two minute deep cavities on either side of the insertion, in each of which a small, broadly obovoid ovule is wholly sunk, its apex only protruding. *Ovule* with a single fleshy coat and contracted micropyle. *J. D. H.*

Plate 5121. Right-hand figure, male cones; left, female. Fig. 1. Portion of leaf. 2. Portion of male cone. 3. Scale of cone and stamens. 4, 5. Anthers. 6. Pollen. 7. Scale at base of cone. 8. Ripe nut:—*all but Fig.* 8 *magnified.*

5122



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5122.

AGAVE MACULOSA.

Spotted-leaved dwarf Agave.

Nat. Ord. AMARYLLIDEÆ.—HEXANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4934.)

AGAVE *maculosa*; humilis acaulis, foliis lanceolato-subulatis carnosis cartilagineo-denticulatis canaliculatis maculatis, scapo bracteato, bracteis appressis, spica simplici laxiflora, bracteolis parvis membranaceis, perianthii tubo recto angulato, limbi laciniis tubum subæquantibus patentibus, staminibus longitudine laciniarum, stigmatis lobis 3 maximis.

A species entirely new, as far as can be learned from the very imperfect descriptions of the individuals of the genus *Agave* in our books. The Kew Gardens owe the possession of it to the Horticultural Society of London, who received it from Texas. Its nearest affinity is probably with *Agave saponaria* of Dr. Lindley, from Guatemala, but that has leaves entire at the margins, and very different in shape and texture, the flowers larger, the tube curved, and the stamens as long as the entire flower. Our species flowers in September.

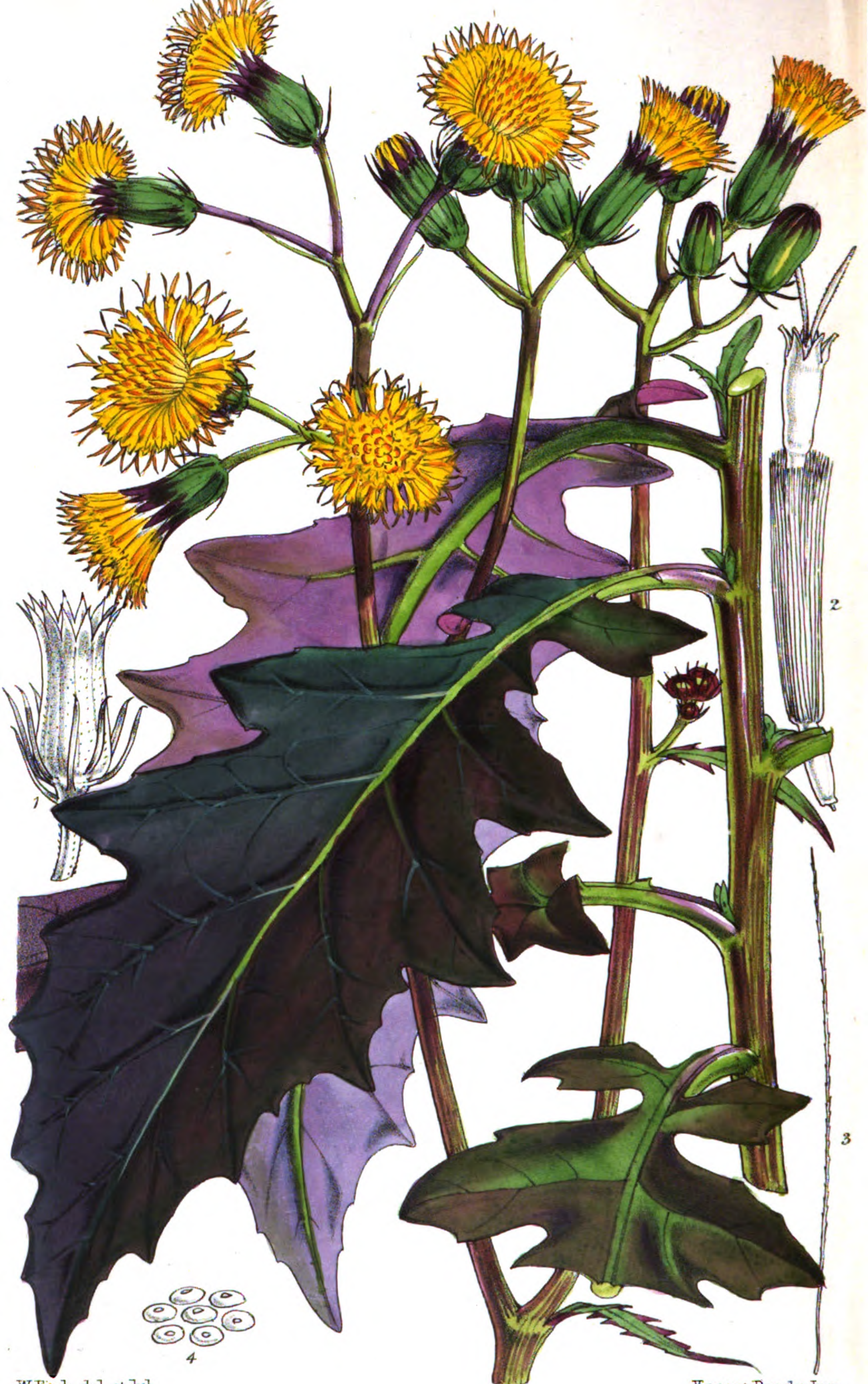
DESCR. Dwarf in stature, stemless. The *leaves* are rosulate, four to six inches long, thi[illegible]d fleshy, lanceolato-subulate, amplexicaul at the base, re[illegible]d, channelled for the whole length, the margin with small cartilaginous teeth. *Scape* central, a foot to a foot and a half long, leafy below, leaves gradually passing into leaf-like *bracts*, appressed to the rounded scape. *Spike* six to eight inches long. *Flowers* ten to twelve, rather distant, bracteolate; *bracteoles* brown, small, membranaceous. *Ovary* inferior, oval, almost quite sessile. *Tube* of the *perianth* green, tinged with red, much longer than the ovary, straight; *limb* of six, spreading, oblong segments, white, with a broad brownish-green dorsal line, white within, reddish-yellow in decay. *Stamens* six. *Filaments* rather thick, scarcely longer than the

JUNE 1ST, 1859.

laciniæ of the perianth. *Anthers* linear, versatile, yellow. *Style* stout, a little longer than the tube. *Stigma* of three large, divergent lobes, velvety at the margin.

Fig. 1. Flowers with the floral covering removed. 2. Transverse section of an ovary :—*magnified*.

5123



W Fitch, del et lith.

Vincent Brooks, Imp.

Tab. 5123.

GYNURA BICOLOR.

Two-coloured Gynura.

Nat. Ord. COMPOSITÆ.—SYNGENESIA ÆQUALIS.

Gen. Char. Capitulum multiflorum, homogamum, fl. tubulosis 5-dentatis. *Involucrum* cylindraceum, 1-seriale, basi (excl. unica sp.) *bracteolis* nonullis subulatis calyculatum; *squamis* linearibus, ad margines, apice excepto, membranaceis, apice acutis. *Receptaculum* planum, alveolatum, alveolarum marginibus nunc brevissimis nunc in fimbrillas elevatis. *Corollæ tubus* basi corneus. *Styli rami* apice producti, in appendicem longam hispidam sæpius exsertam. *Achenium* teretiusculum, rigidum, striatum, erostre. *Pappus* multiserialis, filiformibus, vix barbellulatis.—Herbæ *perennes, interdum basi suffrutescentes, Asiaticæ aut una Mauritiana.* Folia *alterna, integra, dentata aut pinnatilobata.* Capitula *corymbosa. De Cand.*

GYNURA *bicolor;* glabra, caule herbaceo erecto ramoso folioso, ramis floridis elongatis subnudis monocephalis, foliis lanceolatis discoloribus pinnatifidis acuminatis, basi subauriculatis, involucro cylindraceo basi bracteolis subulatis plurimis calyculato floribus subæquali, receptaculo alveolato. *De Cand.*

GYNURA bicolor. *De Cand. Prodr. v.* 6. *p.* 299.

CACALIA bicolor. *Roxb. Fl. Ind. p.* 412. *Salisb. Parad. Lond. t.* 25. *Ker, Bot. Reg. t.* 140. *Wall. Cat. n.* 3148.

In these days of popular admiration of the richly-coloured foliage of plants, truly Nature, and Nature's own, printing, the present one, though not new, yet long lost to our gardens, and again restored, will deservedly hold a place; notwithstanding it belongs to a group of much-despised weeds, which includes our common *Groundsels.* Its leaves are on the under side, and sometimes on both sides, most richly dyed with purple; and the flowers are not to be despised as far as colour is concerned, for they are of a rich golden hue; but we cannot recommend them for a bouquet, in consequence of their disagreeable odour, when too closely approached. The plant is a native of the Moluccas, whence it was introduced to the Botanic Garden of Calcutta, in 1790, and by Sir Joseph Banks to this country in 1799. Treated as a stove-plant it flowers freely, and is readily increased

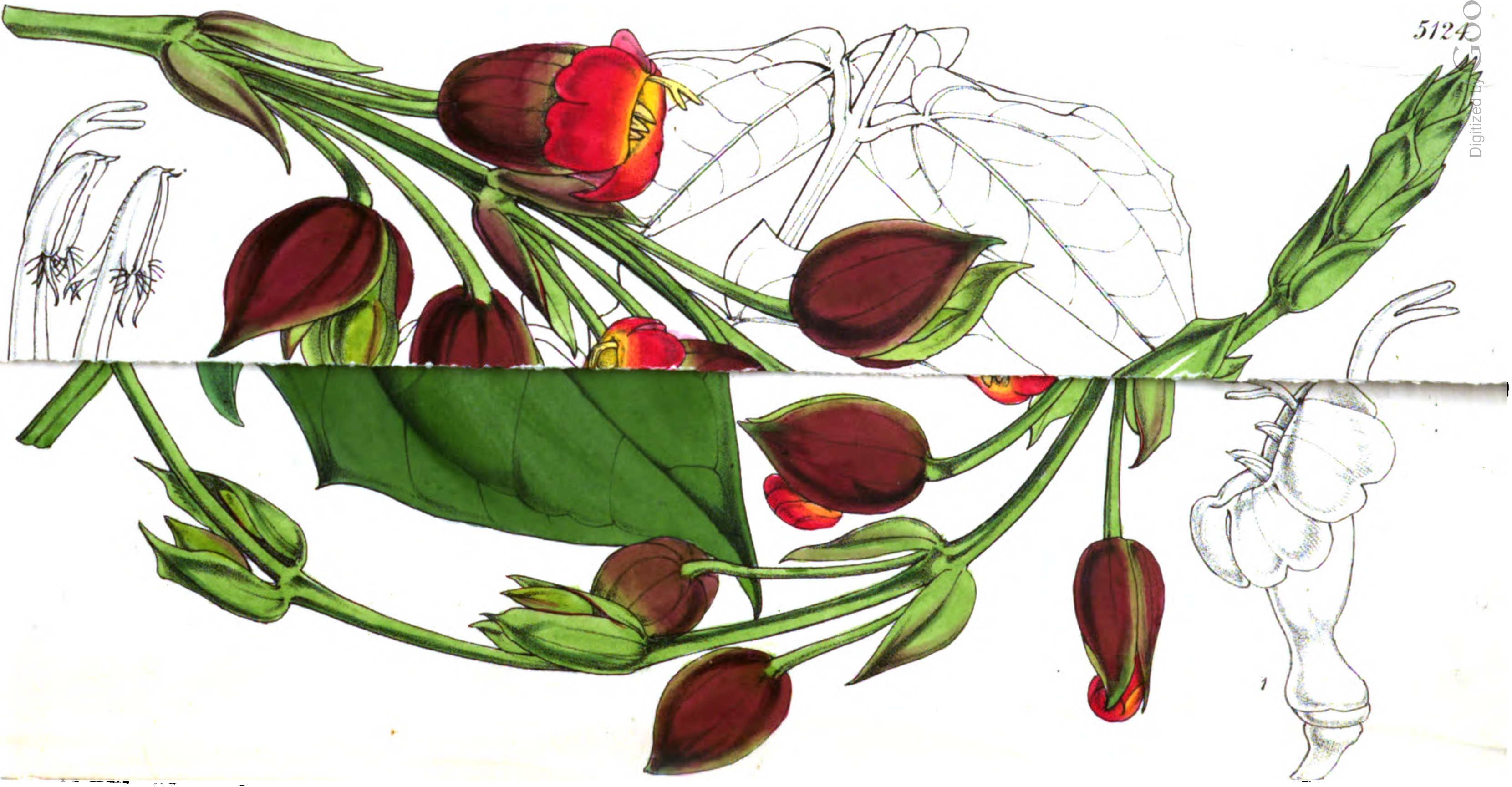
JUNE 1ST, 1859.

by cuttings. De Candolle notices its close affinity with *G. Pseudo-china* and *G. hæmatophylla*; and it is impossible not to see a great resemblance to the figures of *G. Finlaysoniana* and *G. purpurascens* of Wallich, and Delessert's Icones, v. 4. t. 55 and 56; all from Eastern India.

Descr. The plant is perennial, but the stem is altogether herbaceous, erect, two to three feet high, rather slender, slightly angular, dark-purple below, varied with green, greener above, branched; branches long, slender, almost leafless, or with a leaf only at the setting on of the branch. *Leaves* submembranaceous, broad-lanceolate or ovate-lanceolate, slightly downy, penninerved petiolate; petiole short, often stipulated on each side at the base; the margin pinnatifid and coarsely but sharply, and deeply but remotely dentate, two-lobed or auricled at the base, almost full-green above, richly purple beneath, in some of the lower leaves of our plants extending to the upper side also; leaves at the base of the branches small, sessile. *Peduncles* or leafless extremities of the branches subcorymbose, bracteated; *bracteas* remote, slender, subulate. *Heads* (*capitula*) of flowers solitary, terminal. *Involucres* cylindrical, formed by a single series of erect, approximate, if not coadunate, narrow-linear, elongated *scales*, dark-purple at the somewhat spreading tips, at their base having a whorl of five to six spreading subulate *bracteoles*. *Florets* rich orange, not very numerous, slightly spreading, uniform, tubular; below singularly inflated above the base. *Limb* of five erect teeth. *Stigma* exserted. *Styles* cleft into two, long, subulate branches. *Ovary* cylindrical, scabrous. *Pappus* of a single series of white, long, slender, setaceous hairs.

Fig. 1. Involucre and bracteoles. 2. Floret. 3. Hair of the pappus:—*magnified*. 4. Papillæ of the receptacle:—*magnified*.

5124



TAB. 5124.

THUNBERGIA COCCINEA.

Red-flowered Thunbergia.

Nat. Ord. ACANTHACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. (*Vide supra*, TAB. 4985.)

THUNBERGIA (§ Hexacentris) *coccinea;* glaberrima, foliis polymorphis inferioribus hastato-cordatis subacutis basin versus sinuatis v. repando-dentatis supremis ovato-cordatis acuminatis, racemis elongatis, bracteis inferioribus ovatis supremis lanceolatis, bracteolis spathaceis late ovato-acuminatis, calyce obscure dentato, corolla coccinea ore aurantiaca tubo bracteas vix superante.

THUNBERGIA coccinea. *Wall. Tent. p.* 49 *and* 58. *t.* 37. *Hook. Exot. Flor. t.* 195. *Don, Prodr. p.* 120. *Lodd. Bot. Cab. t.* 1195.

THUNBERGIA pendula. *Hassk. Cat. Hort. Bog. p.* 147.

HEXACENTRIS coccinea. *Nees in Wall. Plant. As. Rar. v.* 3. *p.* 78, *et in DC. Prodr. v.* 11. *p.* 61.

This remarkable and beautiful plant was sent to this country nearly forty years ago, by Dr. Wallich, from the Calcutta Botanic Gardens, but owing to the great size it attains, it is seldom seen in full magnificence in our stoves. It has long been cultivated in the Royal Gardens, where it festooned for many years a great part of the gallery of the Palm House; but though it annually produced abundance of racemes, the flowers usually dropped off before expanding. We are indebted to Mr. Veitch, of Exeter, for the specimen here figured, which he raised from seeds imported from India. The plant appears to be a very common inhabitant of the tropical jungles of all the hilly regions of India, from Kumaon, Nepal, Sikkim, the Khasia, and Malayan Peninsular mountains, to Java;. and a very similar but different species, *T. Mysorensis,* appears to be equally abundant in the Western Ghats, and in Ceylon.

DESCR. A very tall climber, with slender, much-branched stems, and pendulous branches, festooning trees. *Branches* sharply four-angled. *Leaves* all opposite, shortly petioled, two

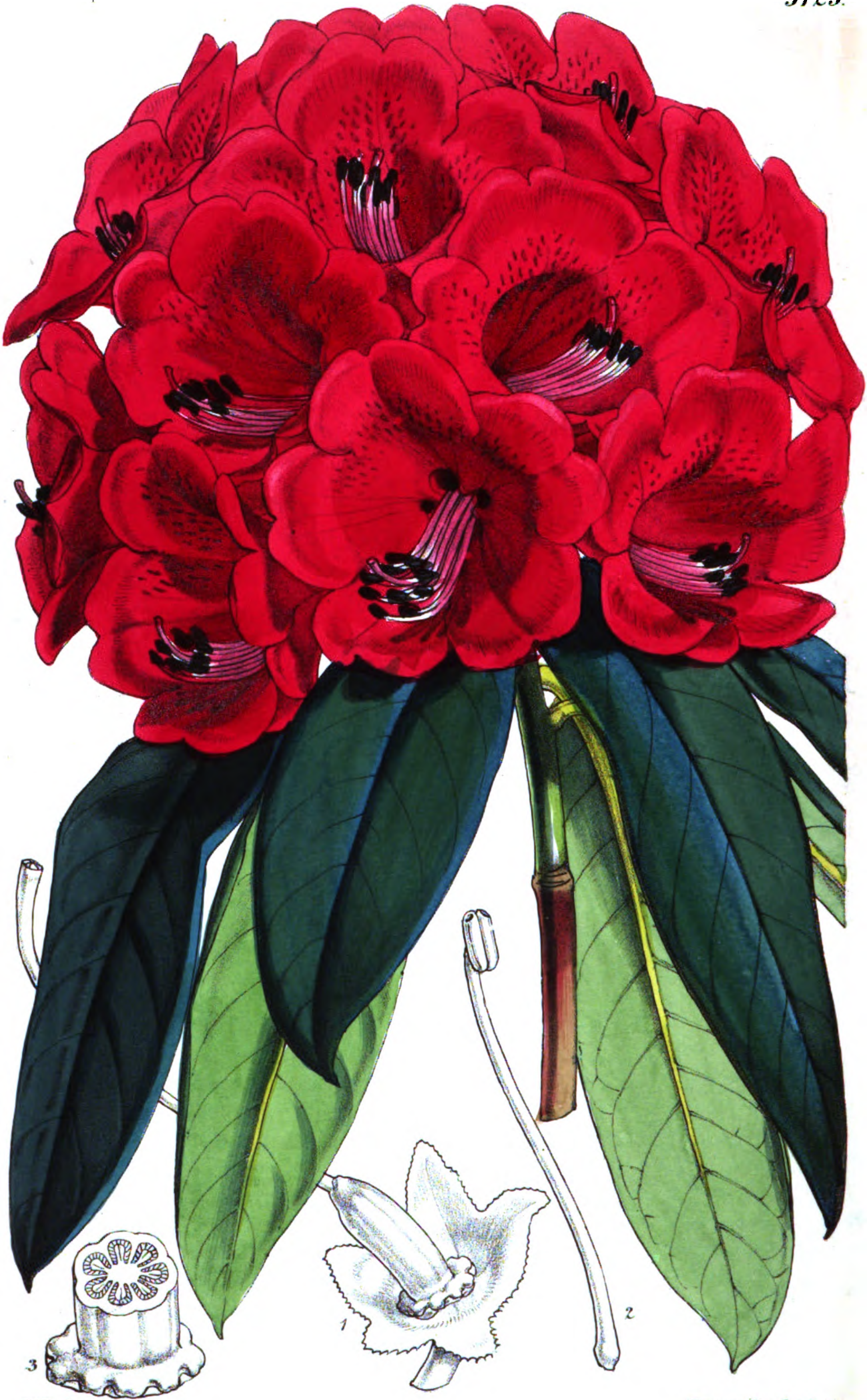
JULY 1ST, 1859.

to five inches long, variously shaped; the lower broadly ovate, with a hastate, truncate, or angulate cordate base; the upper ovato-cordate; all acute; the upper acuminate, the lower with sinuato-dentate or almost lobed margins; the upper entire, all rather glaucous beneath. *Racemes* terminal and axillary, pendulous, very slender and flaccid, one to three feet long, sometimes branched at the base. *Bracts* half the length of the peduncle, the lower ovato-oblong, the upper lanceolate, all acuminate, green, usually brown along the centre. *Peduncles* one to three inches long. *Bracteoles* large, spathaceous, valvate in vernation, concave, ovate, acuminate, generally brown, including all the corolla but the limb, which is reflexed over them. *Calyx* very small, obscurely twelve-lobed or -toothed. *Corolla* with a scarlet limb and orange mouth. *Anther-cells* spurred. *Capsule* rigid, nearly orbicular, two-lobed, two-celled, with a large, flattened, rigid, ensiform beak, fully an inch long.

Fig. 1. Flower, with the bracteoles removed. 2. Base of corolla and stamens. 3. Disc and pistil:—*all magnified.*

5125

5125.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5125.

RHODODENDRON SHEPHERDII.

Mr. H. Shepherd's Rhododendron.

Nat. Ord. ERICEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4336.)

RHODODENDRON *Shepherdii;* foliis lineari-oblongis acutis glaberrimis utrinque concoloribus basi subacutis, venis subtus tenuibus margine recurvis, capitulis terminalibus plurifloris, pedicellis glaberrimis, calyce 5-lobo parvo, lobis ciliolatis subacutis, corolla ampla campanulata coccinea æqualiter 5-loba staminibus 10, ovario glaberrimo, capsulis gracilibus recurvis.

RHODODENDRON Shepherdii. *Nutt. in Hook. Kew Journ. Bot.* 1855, *v.* 5. *p.* 360.

This is another of the beautiful and novel forms of *Rhododendron* introduced by the venerable Nuttall from the mountains of Bhotan and Assam, and flowered by himself at Nutgrove, in Cheshire. It differs from *Rhododendron Kendrickii* (of which a Plate will soon appear), in the glabrous ovary and large calyx; from *R. arboreum* in the colour of the under surface of the leaf, the slender nerves, and larger calyx; and from *R. barbatum*, which is perhaps its nearest ally, in the absence of setæ on the petiole, and small calyx. Mr. Nuttall remarks that it grew on the Oola Mountains of Bhotan with *R. eximium*, and that it is named in honour of Mr. Henry Shepherd, of the Liverpool Botanic Garden. Our engraving was made from a drawing by Mr. Holden, of Warrington.

DESCR. A shrub, with glossy bark on the branchlets. *Leaves* towards the ends of the branchlets, three to four inches long, shortly petioled, narrow-linear, oblong or elliptic-oblong, acute, three to four inches long by one wide, of a deep-green above, pale below, "very thick and opaque; the young are of a deep purple-red beneath." (*Nutt.*) *Buds* sharply conic, very smooth, the scales

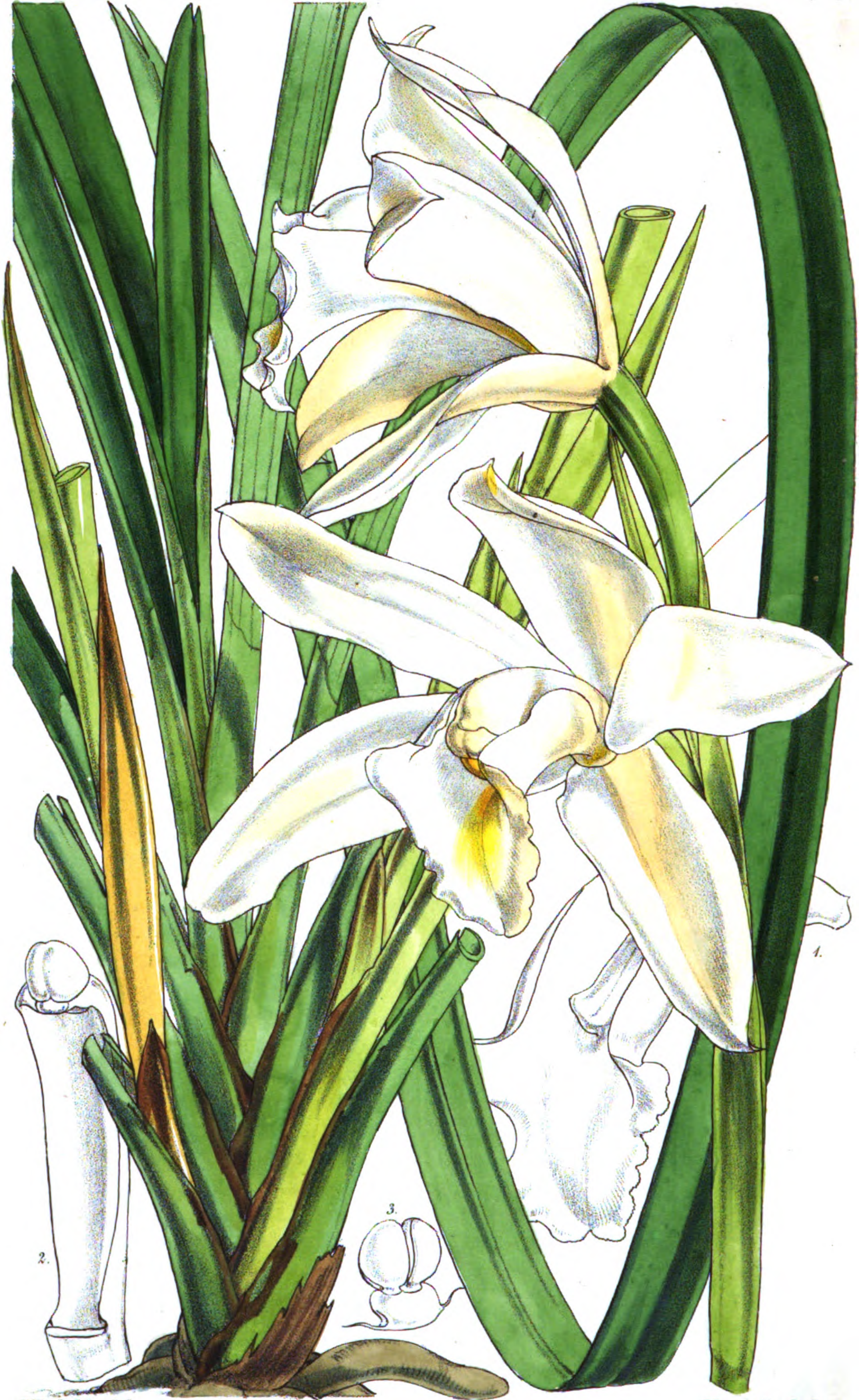
JULY 1ST, 1859.

green, dilate, and ovate (*Nutt.*). *Flowers* in large terminal heads, like those of *R. barbatum,* of a deep scarlet colour. *Calyx* small, but quite distinct, of four separate lobes. *Corolla* broadly bell-shaped, equally five-lobed. *Stamens* ten. *Ovary* quite glabrous.

Fig. 1. Calyx and pistil. 2. Stamen. 3. Pistil, cut transversely:—*magnified.*

5126

5126.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5126.

CYMBIDIUM EBURNEUM.

The Ivory Cymbidium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4844.)

CYMBIDIUM *eburneum;* foliis distichis anguste lineari-ligulatis rigidis apice bifidis lobis acutis, racemo brevi sub-2-floro, squamis elongatis acuminatis imbricatis, floribus amplis obovatis eburneis, sepalis petalisque lineari-oblongis oblongo-lanceolatisve subcarnosis acutis subundulatis, labello oblongo apice trilobo lobis lateralibus rotundatis intermedio triangulari-acuto margine undulato, lamellis in unam mediam incrassatam carnosam auream pubescentem apice tumidam confluentibus.

CYMBIDIUM eburneum. *Lindl. in Bot. Reg. v.* 33. *t.* 67; *Paxton's Magazine, v.* 15. *t.* 145.

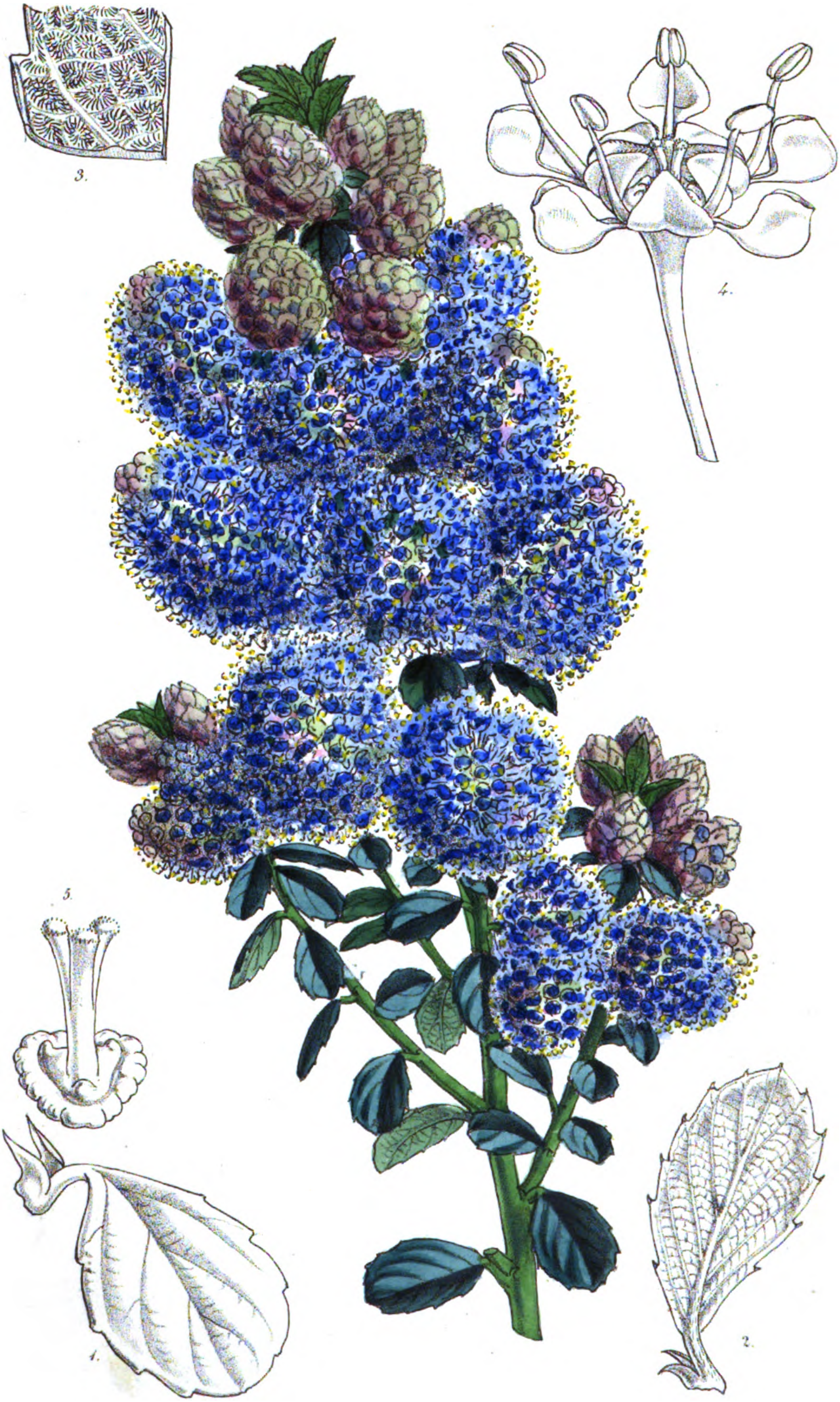
This lovely and rare Orchid has hitherto been found by one botanist only, the late Mr. Griffith, who, according to Dr. Lindley's notes on the Orchidology of India, discovered it at Myrung, on the Khasia mountains of East Bengal, where it grows at an elevation of about 5–6000 feet. Fine plants were imported by Messrs. Loddiges, probably from the Calcutta Botanic Gardens, from which Dr. Lindley described the species in 1847. The specimen figured flowered in the Royal Gardens, Kew, in April of the present year, and its scent, which is scarcely so sweet as is usually described, slightly resembled that of starch.

DESCR. *Stems* tufted. *Leaves* distichous at the base, very long, linear or lorate, one to two feet long by three-quarters of an inch wide, rather rigid, bifid at the apex, the divisions sharp. *Raceme* very short in proportion to the foliage, four to eight inches long, decumbent or inclined, few-flowered, covered with long, sharp, imbricating *bracts*. *Flowers* large, of a fine ivory-white colour, five to six inches across. *Sepals* and *petals* similar, linear-oblong, acute, scarcely undulate. *Labellum* shorter, with incurved margins, three-lobed at the apex; the outer lobes rounded, terminal, ovate, crisped or undulate at the margin; a thick, pubescent, golden ridge runs down the centre of the lip, and terminates in a protuberance at the base of the middle lobe.

Fig. 1. Lip. 2. Column. 3. Pollen:—*all magnified.*

5127

5127.



W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5127.

CEANOTHUS VEITCHIANUS.

Mr. Veitch's Ceanothus.

Nat. Ord. RHAMNEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4660.)

CEANOTHUS *Veitchianus;* ramis foliis superne petiolis pedicellisque glaberrimis, ramulis ultimis rachique inflorescentiæ tomentosis, foliis obovato-cuneatis apice rotundatis junioribus acute adultis obtuse glanduloso-serratis superne lucidis (sicco opacis), venis subtus validis, areolis fimbriatis, floribus ad apices ramulorum omnium dense corymbosis v. in capitula oblonga globosa densissime confertis.

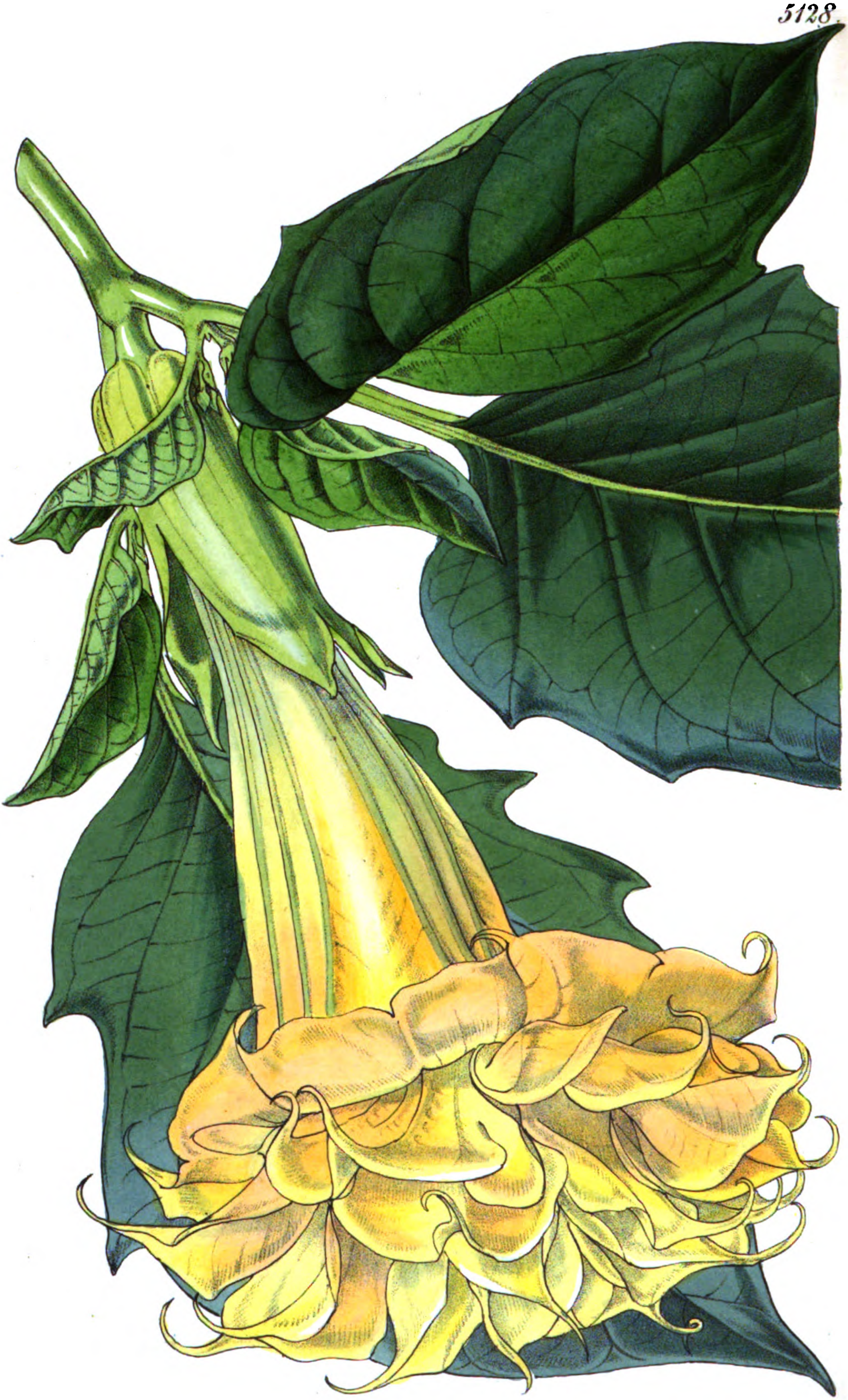
For this magnificent acquisition to our hardy shrubs we are indebted to Messrs. Veitch and Sons, of the Exeter and Chelsea Nurseries, who introduced it from California through Mr. William Lobb. Though closely allied to and in many respects so similar to *Ceanothus floribundus* (Tab. 4806), *C. Lobbianus* (Tab. 4811), and *C. papillosus* (Tab. 4815), it is abundantly distinguished from them by the characters of its foliage; and, beautiful as they are, it far surpasses them all in the abundance of its bright mazarine-blue flowers, and the glossy, almost varnished surface of its deep evergreen foliage. The specimen sent us by Mr. Veitch was fully three feet long, and the profusion of flowers was so great that the leaves were almost concealed throughout the whole length of every twig. To distinguish it accurately, attention must be paid to the perfectly glabrous branchlets, upper surface of the leaf, petiole, pedicel, and calyx, to the glossiness of that surface, to the venation beneath, which consists, besides the midrib, of about four, very stout, straight, parallel nerves, given off at an acute angle to the midrib on each side; as also to the pubescence of the minute areoles between the venules, which under the microscope is found to consist of minute, converging, fimbriæ or short hairs. It does not exist in our herbaria from any North-American or European collectors.

JULY 1ST, 1859.

DESCR. A ramous *shrub*, with terete, glabrous, green, straight branches, and bright-green, small, glossy leaves of very uniform size. *Leaves* shortly petioled, obovate-cuneate, rounded at the apex, margin rather distantly toothed, each tooth terminated by a deciduous gland. *Heads* of flowers one to three inches long, forming when in bud broadly ovoid cones at the ends of the branchlets, covered with imbricating, silky scales. *Rachis* stout, villous. *Peduncles* slender. *Calyx-lobes* erect or incurved, triangular. *Petals* with rather long claws, and very broadly obovate, deeply cucullate laminæ, of a bright deep-blue colour, as are the pedicels, calyx, and stamens. *Ovary* depressed, three-lobed, lobes tumid at the apex.

Fig. 1. Leaf. 2. Back of leaf. 3. Portion of back of leaf. 4. Flower. 5. Disc and ovary:—*magnified*.

5128



W. Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5128.

DATURA CHLORANTHA; *flore pleno.*

Yellow-flowered Thorn-Apple; double-flowered.

Nat. Ord. SOLANACEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4252.)

DATURA (§ Brugmansia) *chlorantha*; fruticosa, ramis teretibus ut et tota planta glaberrimis, foliis sublonge petiolatis late ovatis subtriangularibus grosse sinuato-dentatis acutis, floribus solitariis axillaribus pendentibus brevissime pedunculatis, calyce subcylindraceo laxo basi paululum dilatato apice lobis 5 subuniformibus triangulare breve acuminatis erectiusculis tubo hinc semi-fisso obsolete nervoso, corollæ flavæ infundibuliformis ore dilatato tubo calycem plusquam duplo superante lineis 15 elevatis subviridibus notato, limbi patentis lobis latissimis rotundatis apice anguste uncinatim acuminatis.

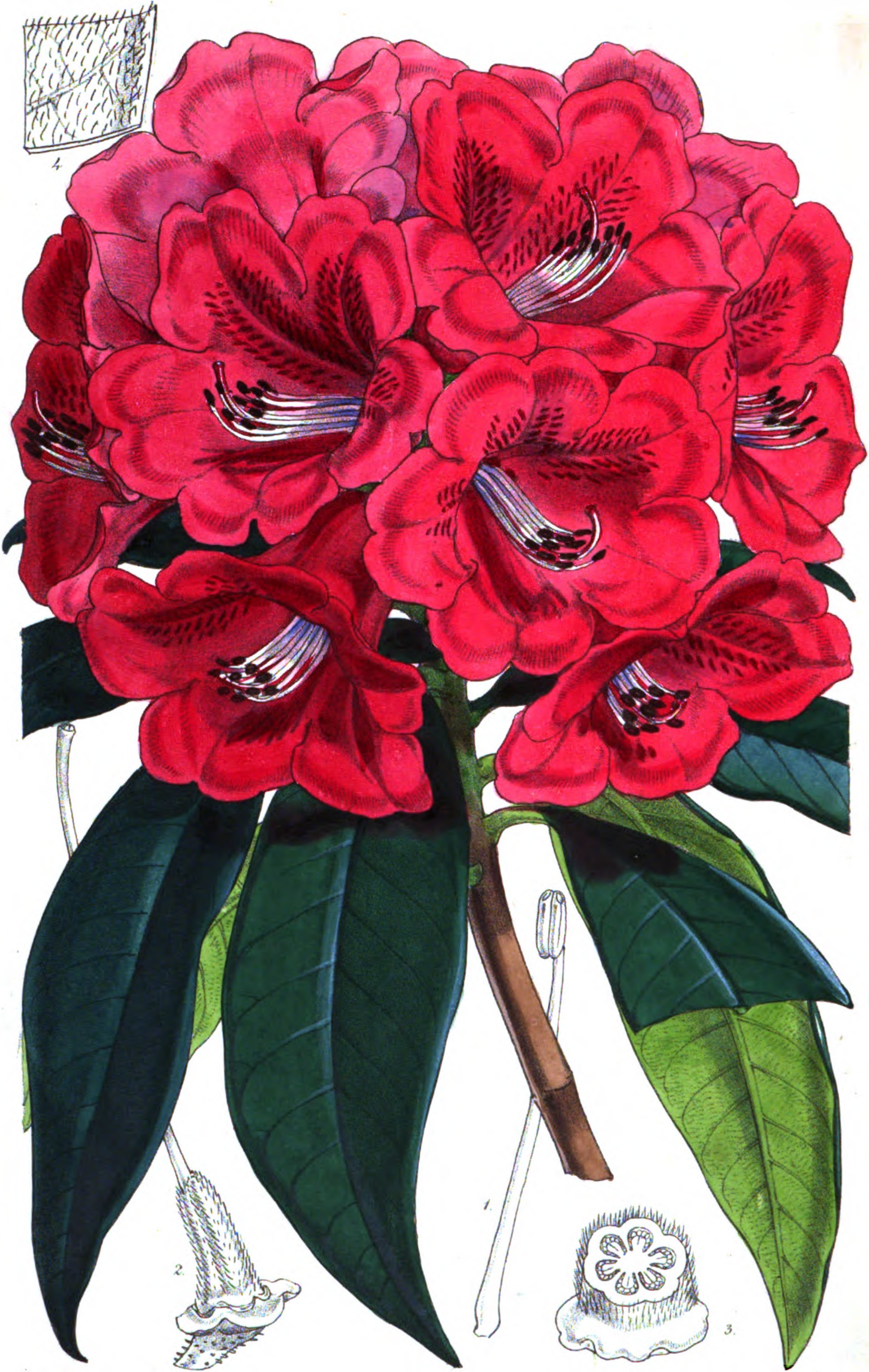
Flore pleno. (TAB. NOSTR. 5128.)

My first knowledge of this really handsome plant was from specimens which flowered at Sion House in 1845, raised from seeds sent to his Grace the late Duke of Northumberland by Dr. Wallich, but from what country is not known. The determination of the species of *Datura* is attended with great difficulty, as all will acknowledge who have made the attempt, partly owing to very imperfect specimens in our herbaria, and more so from the very variable character of the individuals, their change of colour, and their disposition to become double; and I confess myself to have been fairly puzzled with this, and I put the drawing of it aside for future consideration.

In May of the present year my attention was again directed to the subject by a recent specimen of the same plant, sent by the Messrs. Henderson, of the Nursery, Pine-apple Place, Edgeware Road, who received seeds of it from Mr. Francis, the curator of the Adelaide Botanic Gardens, South Australia, with the following remarks:—"A species of double yellow *Datura*, very plentiful in these parts, sweet-scented, and flowering all the summer, of a low spreading habit, producing its flowers seven to eight months throughout the twelve. This will be a useful plant to you in England; planted in the open borders in June, you may expect it to flower finely during the months of August, September, and October. Here it stands the winter, being almost deciduous. I never saw it when in England. It is worth your growing, being a free bloomer." There is no reason whatever for supposing the species to be a native of Australia: on the contrary, it is more likely seeds were sent from Europe to Adelaide, where it would naturally be more hardy than with us.

Our plant is evidently arborescent, and of the *Brugmansia* group. It cannot be the true *D. arborea* of Linnæus, which has quite entire as well as downy leaves; nor the *D. arborea* of our gardens (*D. Gardneri*, Hook. in Bot. Mag. sub t. 4252); nor the *D. arborea* of Ruiz and Pavon, t. 128, which is more like our *D. cornigera*, Bot. Mag. t. 4252, but is widely different. The leaves of *D. chlorantha* accord in shape with our *D. cornigera;* but they are quite glabrous, and the calyx is widely different, as is the colour of the corolla. These differences are best seen by a reference to the respective figures. It need hardly be said that it has nothing to do with the *D. sanguinea* of Ruiz and Pavon.

5129



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5129.

RHODODENDRON KENDRICKII; var. *latifolium.*

Dr. Kendrick's Rhododendron; broad-leaved variety.

Nat. Ord. ERICEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4336.)

RHODODENDRON *Kendrickii*, var. *latifolium;* foliis lanceolatis oblongo-lanceolatisve acuminatis margine subundulatis utrinque concoloribus viridibus subtus strigoso- v. glanduloso-pubescentibus demum glabris, capitulis multifloris, pedicellis puberulis, lobis calycinis parvis acuminatis, corolla late campanulata coccinea æqualiter 5-loba, staminibus 10, ovario strigoso-piloso, capsula glabra gracili curva.

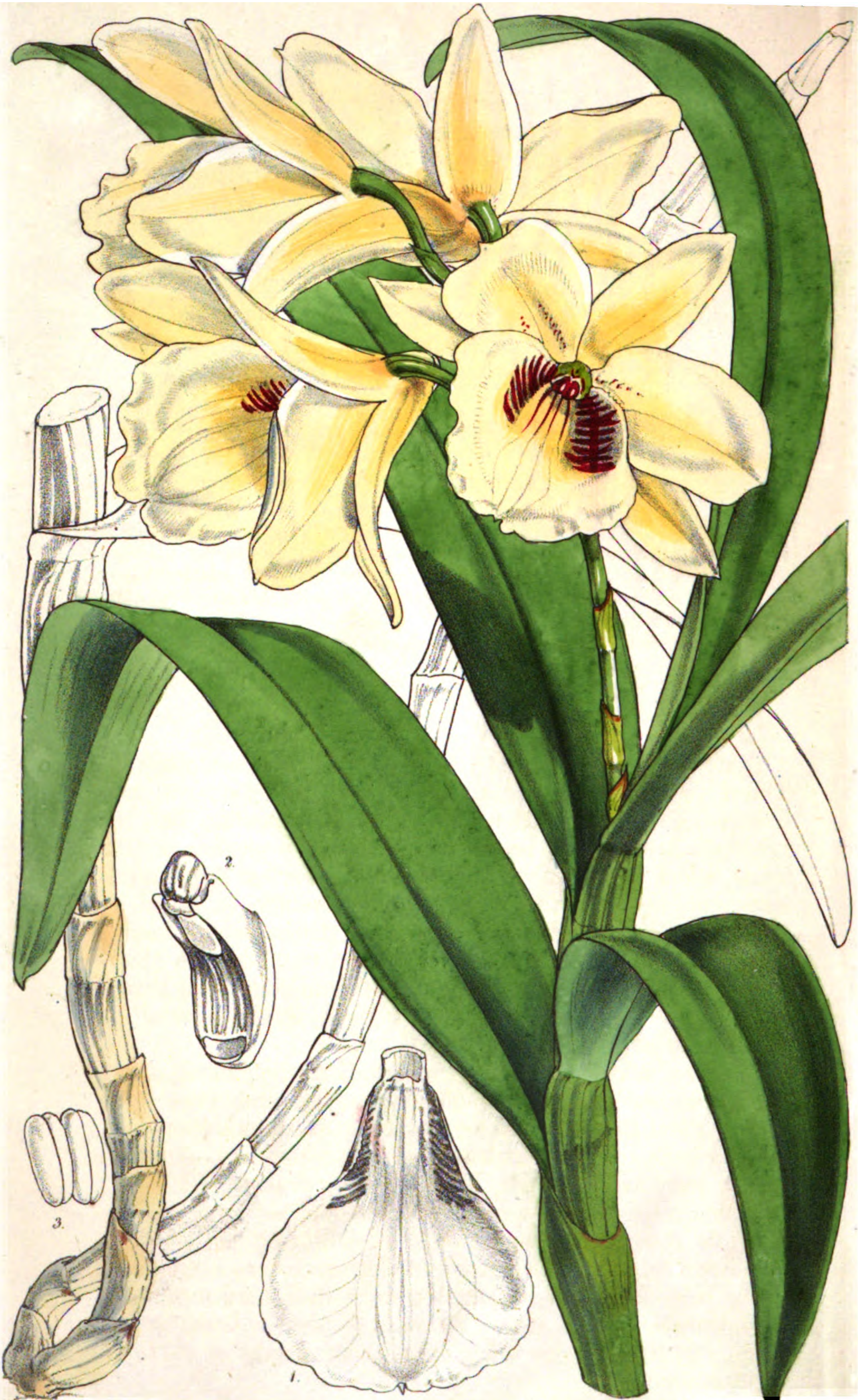
RHODODENDRON Kendrickii. *Nutt. in Ann. and Mag. of Nat. Hist. v.* 12. *p.* 10; *et in Hook. Kew Journ. Bot. v.* 358.

Amongst the many new and beautiful species of *Rhododendron* introduced from the Bhotan mountains by Dr. Nuttall, few surpass this in the gorgeous colouring of flower. It was collected by Mr. Nuttall's nephew, Mr. Booth, at 7000 feet elevation, accompanying *R. Edgeworthii*, in the region of Pines and Yews, where it forms lofty thickets after the manner of *R. Ponticum*, through which he says the traveller finds dark and difficult paths. It had, however, been previously discovered by Mr. Griffith, and is the n. 2235 of his Bhotan collection. The original specimens have considerably narrower leaves than those here figured, and they are perfectly glabrous beneath. We are indebted to the same accomplished artist, Mr. Holden, of Warrington, for this drawing, as for those of *R. Shepherdii* and *Windsorii*. The plant itself has proved hardy in the climate of Cheshire.

DESCR. A small *bush*, with a very ramous *trunk*, seven to eight inches in girth, covered with a smooth, pale bark. *Leaves* four to six inches long, about one wide, generally undulate at the margin, more or less whorled, green on both surfaces: young leaves and other parts of the plant clothed with reddish glutinous hairs that disappear in age. *Flower-head* rather loose, globose, ten- to fifteen-flowered. *Calyx* of five small teeth. *Corolla* bright-scarlet, broadly campanulate, equally five-lobed. *Stamens* ten. *Ovary* strigose. *Capsule* curved, slender, nearly glabrous.

Fig. 1. Stamen. 2. Pistil. 3. Traneverse section of ditto :—*all magnified.*

5130



W. Fitch del et lith.

Vincent Brooks, Imp.

TAB. 5130.

DENDROBIUM ALBO-SANGUINEUM.

White-and-sanguine Dendrobium.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4352.)

DENDROBIUM (§ Stachyobium) *albo-sanguineum;* caulibus crassis erectis foliosis, racemo terminali 4–5-floro, bracteis squamæformibus, sepalis oblongo-lanceolatis lateralibus in mentum breve obtusum productis, petalis ovalibus obtusis pluries latioribus, labello obovato subrotundo plano retuso apiculato integerrimo. *Lindl.*

DENDROBIUM albo-sanguineum. *Lindl. in Paxton's Flower Garden, v.* 2. *t.* 5.

Paxton's representation of this rare *Dendrobium*, exhibits the flowers twice the size of ours, and the peduncles one- to two-flowered, coming out of old withered pseudobulbs; but Dr. Lindley's notes which accompany it, throw suspicion on that figure, which is probably made up from imperfect dried specimens; for he says, "If it really forms racemes (as stated by Lobb), it will have to be removed from the section *Eudendrobium*, to *Stachyobium*." It is a native of Attran River, in Moulmein, and was imported by Messrs. Veitch and Sons, of the Exeter and Chelsea Nurseries. Our plant flowered in the stove of the Royal Gardens in April, 1859.

DESCR. Caulescent, forming elongated, terete, jointed, nearly erect *stems*, rather than pseudobulbs, a foot and more long, leafy at the extremity. *Leaves* five to six or seven inches long, subdistichous, lineari-lanceolate, sheathing at the base. *Peduncle* not so long as the leaves, erect, slender, clothed with short, sheathing scales, and bearing five to seven rather large yellowish-white *flowers*, each about two inches broad (four inches, it would appear, in the dried native specimens). *Sepals* spreading, oblong-lanceolate, the two lateral ones at their base forming a short, conical, straight *spur*. *Petals* oval, twice as broad as the sepals, very obtuse, with a few sanguineous streaks at the base.

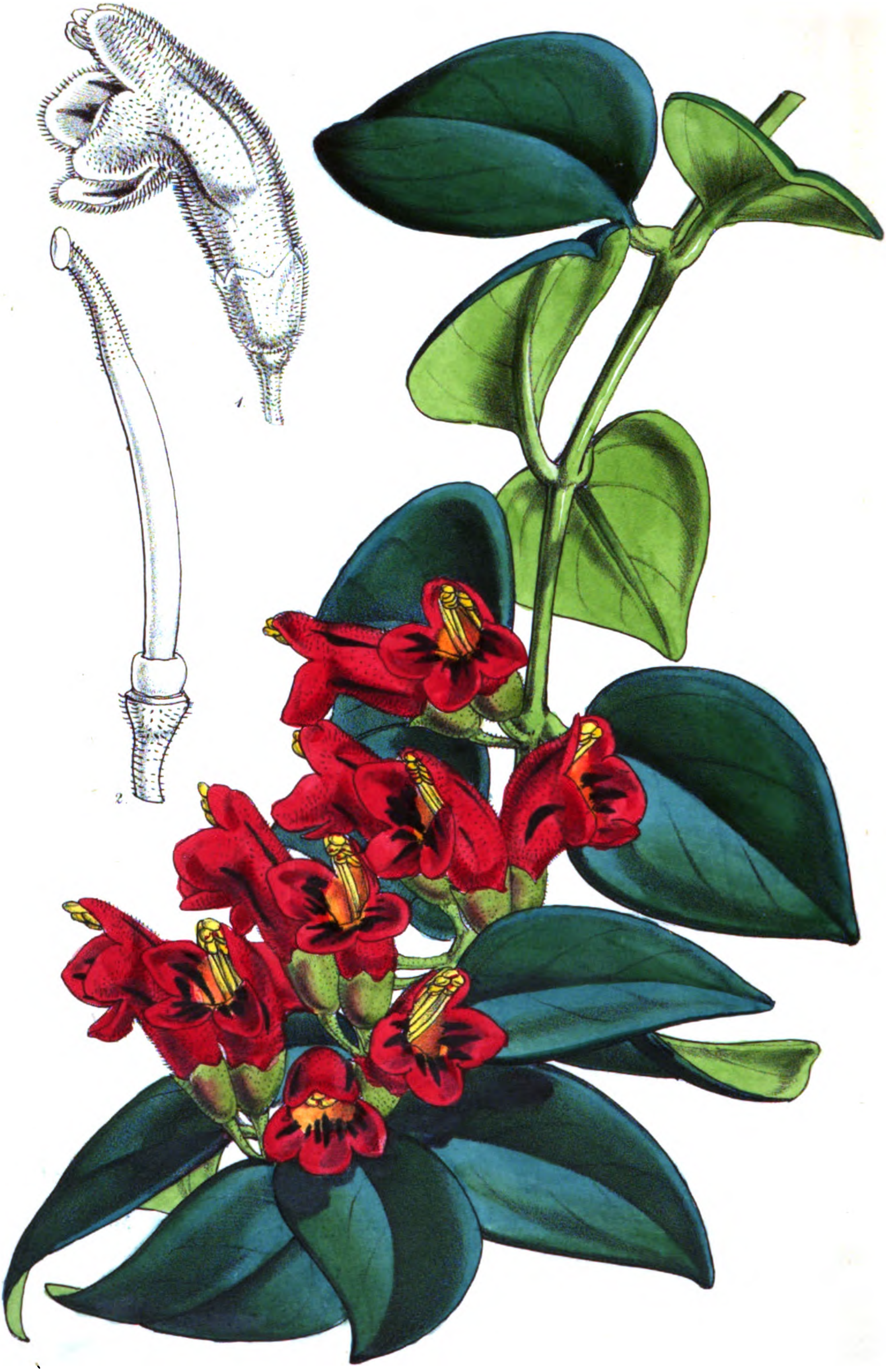
AUGUST 1ST, 1859.

Lip large, nearly obovate, subunguiculate, veined and a little waved, quite entire, plane, blotched and streaked near the base with deep blood-purple. *Column* short, in front and on the *anther* streaked with purple, decurrent at the base.

Fig. 1. Labellum. 2. Column. 3. Pollen-masses :—*magnified.*

5131

5131.



W Fitch del et lith.

Vincent Brooks, Imp.

TAB. 5131.

ÆSCHYNANTHUS CORDIFOLIUS.

Heart-leaved Æschynanthus.

Nat. Ord. CYRTANDRACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. (*Vide supra,* TAB. 5031.)

ÆSCHYNANTHUS *cordifolius;* caule terete scandente glabro, foliis late ovatis glabris integerrimis carnosis, petiolis brevibus semiteretibus, floribus terminalibus vel in axillis binis sursum curvatis glanduloso-pubescentibus, calyce basi cum pedicello articulato turbinato apice brevi-quinquelobo lobis corollæ appressis, corollæ velutinæ coccineæ fauce intus atra strigosa, tubo calyce vix triplo longiore superne curvato, limbo obliquo subæqualiter quadrilobo bilabiato, labiis late ovatis concavis superiore apice bifido inferiore trilobo, staminibus styloque labii superioris longitudine.

This is another of the many fine and highly ornamental tropical plants imported by Messrs. Veitch and Sons, of the Nurseries, Exeter and Chelsea, from Borneo, through their collector Mr. Thomas Lobb. Its nearest affinity is doubtless with our *Æsch. tricolor* (Tab. 5031), from the same country; but that has much smaller leaves, a shorter, broader, spreading calyx-tube (not at all appressed to the corolla), a differently formed and differently marked corolla, and a very different hypogynous gland.

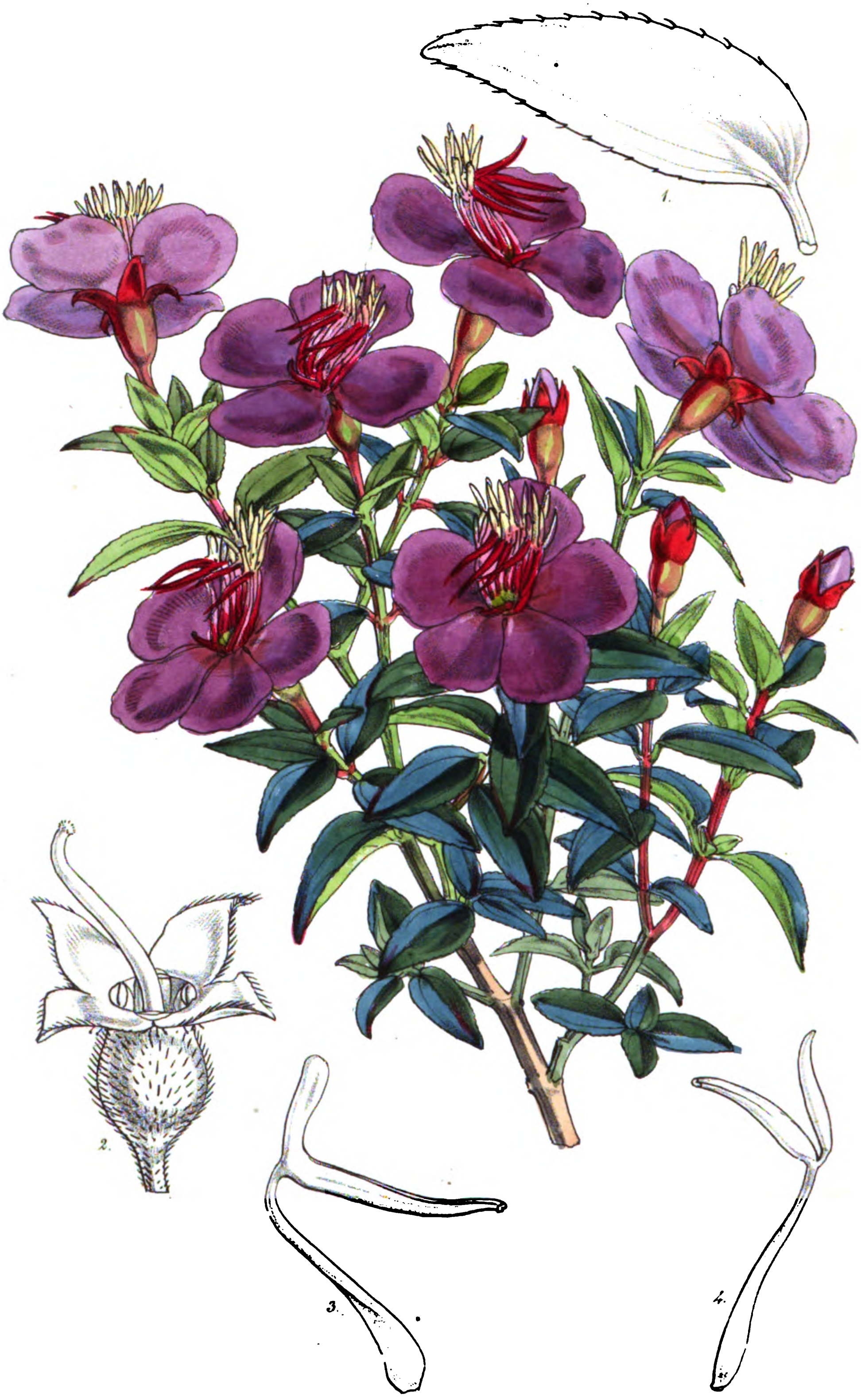
DESCR. Like the *Æschynanthus tricolor* above mentioned, this has the appearance of being a climber and an epiphyte. Its *branches* are moderately stout, terete, quite glabrous, pendent. *Leaves* two inches to two and a half inches long, cordate, sometimes approaching to ovate, thick, fleshy, quite glabrous, shortly and obtusely acuminate, very obscurely penniveined, slightly channelled in the middle above, the margin very entire, and a little reflexed; *costa* prominent beneath: the *colour* is very dark, almost glossy-green above, pale beneath. *Petioles* semiterete, short, scarcely half an inch long. *Flowers* large, beautiful, on short two- to three-flowered *peduncles* in the axils

AUGUST 1ST, 1859.

of the rather closely-placed ultimate leaves. *Pedicels* short, curved upwards, so that all the flowers form a mass on the upper side of the plant. *Calyx* nearly turbinate, green, tinged with brown, obscurely five-angled, slightly downy, as are the pedicels. *Corolla* four to five times as long as the calyx, deep-red, glanduloso-villous; *tube* stout, slightly curved; *limb* oblique, of four, deep, moderately spreading, broad-ovate lobes, the upper lobe somewhat helmet-shaped and bifid; the three lower lobes yellow at the throat; each with a radiating black spot. *Ovary* linear, terete, glabrous, tapering into a rather short downy *style*. *Stigma* depressed in the centre. *Hypogynous gland* forming an erect tubular ring at the base of the ovary.

Fig. 1. Flower. 2. Pistil:—*magnified.*

5132.



W Fitch, del. et lith

Vincent Brooks, Imp

TAB. 5132.

MONOCHÆTUM ENSIFERUM.

Sword-bearing Monochætum.

Nat. Ord. MELASTOMACEÆ.—OCTANDRIA MONOGYNIA.

Gen. Char. Flos 4-merus. *Calycis* oblongo-campanulati dentes tubo subæquales aut breviores, acuti, caduci aut persistentes. *Petala* obovata. *Stamina* 8, alternatim inæqualia; *filamentis* complanatis; *antheris* longe subulatis, acutis, 1-porosis; *connectivo* infra loculos non producto, sed postice in *caudam* varie conflatam, anthera ipsa sæpius breviorem, porrecto. *Ovarium* basi tantum costis 8 subevanidis adhærens, subtetragonum, apice villosum, 4-loculare. *Stylus* filiformis, magis minusve sigmoideus, *stigmate* punctiformi. *Capsula* 4-valvis. *Semina* cochleata.—Frutices suffruticesq*ue utplurimum monticoli, in Republica Mexicana necnon in Columbia et Peruvia hucusque cogniti, ramosi;* foliis *plerumque tripli-septuplinerviis;* nervis *convergentibus, pagina superiore impressis, unde folia sulcata videntur;* floribus *purpureis aut violaceis;* antherarum *minorum et fortassis sterilium filamentis quam fertilium utplurimum longioribus. Naudin.*

MONOCHÆTUM *ensiferum;* "ramis subdivaricatis, foliis petiolatis lineari-lanceolatis obtusiusculis integerrimis supra glabellis vel sparse setulosis subtus villosis parum conspicue triplinerviis, floribus majusculis ad apices ramulorum terminalibus solitariis roseis." *Naud.*

MONOCHÆTUM ensiferum. *Naudin, Ann. des Sc. Nat.* 1845, *p.* 49. *Monograph, Descr. Melastom. p.* 255.

The beautiful Melastomaceous plant here figured I give with the name by which we received it from Mr. Linden, a species of M. Naudin, too briefly described by him, of a genus established also by that author on certain kinds of *Melastomaceæ*, twenty-four in number, chiefly referable to *Rhexia* of Bonpland, and *Arthrostemma* of De Candolle, of which M. Naudin says, "Genus flore 4-mero, habitu specierum, et præsertim singulari inter *Melastomeas* hujus tribus stamina fabrica facile dignoscendum et omnino naturale." Unfortunately the pentamerous flowers are not to be depended upon, for on the specimens now before us there are as many pentamerous as tetramerous blossoms. Thus, in regard to the present species, although there is reason to believe it has come to us authentically named, it does not

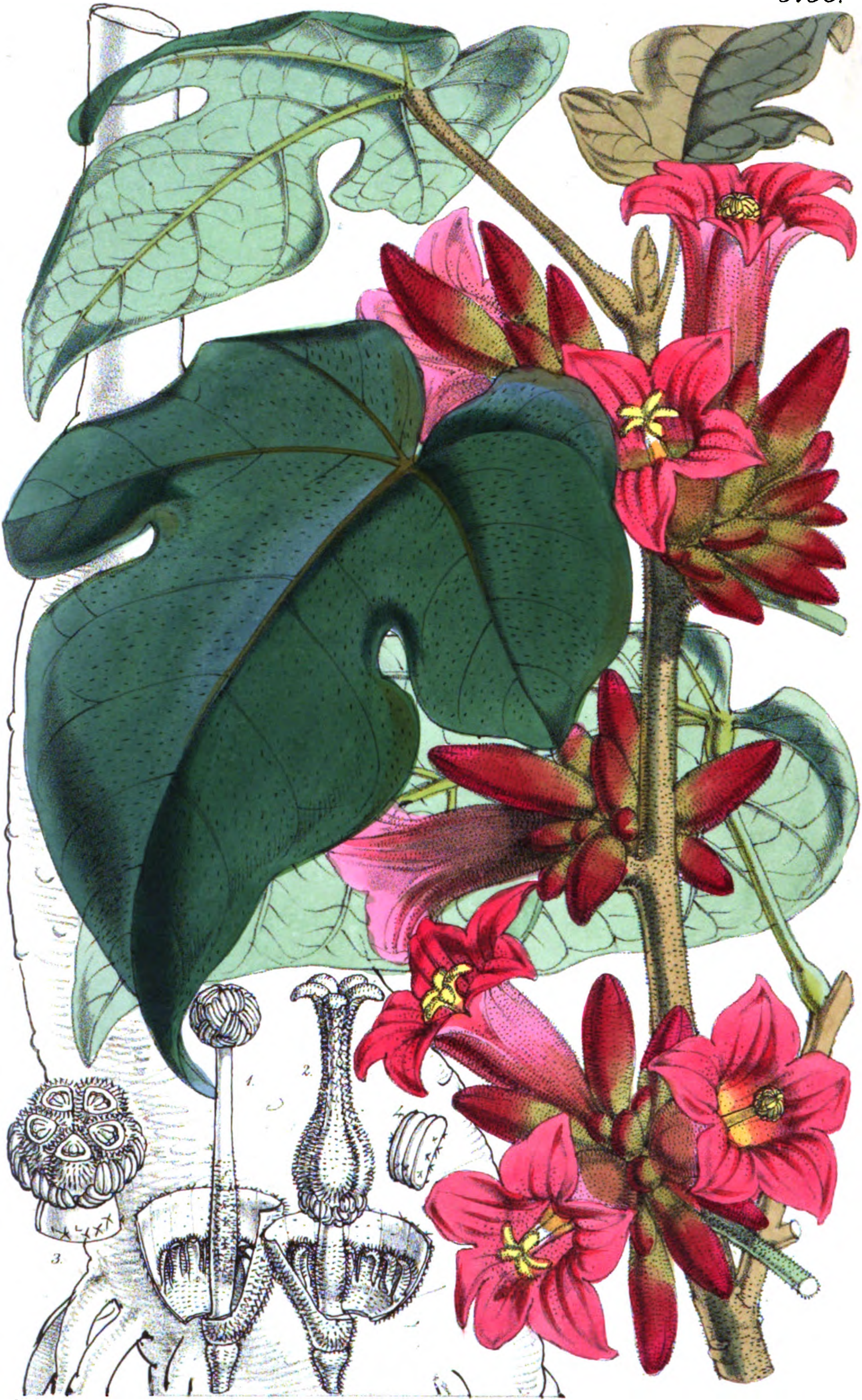
AUGUST 1ST, 1859.

by any means fully accord with Naudin's brief remarks :—the branches can scarcely be called divaricate, the leaves are not linear-lanceolate nor quite entire, nor does the character of the longer stamens (which with us are the sterile ones) quite accord. It is a native of the mountains of Oaxaca, in Mexico, and appears to have been discovered by M. Ghiesbrecht.

DESCR. A small, compact *shrub* (as exhibited in the plant before us); much branched : the *branches* nearly erect, straight, short, tetragonous, woody; the younger ones herbaceous, and more or less tinged with red. *Leaves* horizontally spreading, subapproximate, broad- or ovato-lanceolate, on very short *petioles*, rather obtuse, subcoriaceous, three- to five-nerved, the margin obscurely sinuato-crenate and ciliated, dark-green above, paler and slightly hairy beneath. *Flowers* solitary, terminal, one and a half inch to two inches across, ovate or suburceolate, villoso-hispid, the limb of four or five, ovato-acuminate, spreading, ciliated *segments*, of a bright-red colour (the whole calyx a good deal resembling that of *Punica*). *Petals* four to five, cordato-subrotund, purple-rose-colour, spreading, a little waved. *Stamens* large for the size of the flower, eight or ten, of two kinds, four to five fertile, four to five sterile, the fertile with taller and slender red filaments, yellow fertile subulate *anthers*, and a slightly pedicellate appendage of nearly the same shape and size as the anther-cell, both suberect; the sterile *stamens* have shorter red *filaments*, much dilated at the base, a bright-red abortive linear *anther*, and a lengthened cultriform bright-red appendage, which spreads horizontally or is deflexed.

5133

5133.



W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5133.

BRACHYCHITON BIDWILLI.

Mr. Bidwill's Brachychiton.

Nat. Ord. STERCULIACEÆ.—POLYGAMIA MONŒCIA.

Gen. Char. Calyx 5-fidus. *Antheræ* congestæ. *Styli* cohærentes. *Stigmata* distincta v. in unicum peltatum coalita. *Folliculi* coriaceo-lignei, polyspermi. *Semina* albuminosa, pube stellari tecta, mutuo et fundo folliculi cohærentia. *Embryonis radicula* hilo proxima.—Arbores (*Novæ Hollandiæ*); foliis *lobatis indivisisve. Br.*

BRACHYCHITON *Bidwilli;* ubique stellatim tomentosum; foliis cordato-trilobis supra parce subtus dense fulvo-tomentosis, floribus polygamo-monoicis in axillis dense glomeratis, calyce campanulato-infundibuliformi, limbi lobis ovatis acuminatis striatis intus prope basin squamis; *masc.* columna elongata fusiformi; *hermaphr.* columna brevi, antheris ad basin ovariorum, ovariis dense tomentosis, stylis apice cohærentibus, stigmatibus patenti-recurvis.

Seeds of this remarkable plant were sent to the Royal Gardens of Kew in 1851, from the Widebay district, north-east Australia, by the late Mr. Bidwill. I refer it with little hesitation to the section *Brachychiton* of *Sterculia,* of Schott and Endlicher, of which Brown has, together with the sections *Pœcilodermis* and *Trichosiphon* (all tropical New Holland plants), constituted his genus *Brachychiton.* Of the five species recorded by Mr. Brown, I believe very imperfect specimens exist in herbaria. That which Dr. Mueller has found at Victoria River (north-west Australia), and calls *Br. ramiflorum,* in many respects resembles this; but the leaves are not, or very imperfectly, three-lobed, and the calycine lobes are short and very obtuse, otherwise the two appear to be almost identical. It is treated with us as a stove-plant, and flowered for the first time in the autumn of 1858, continuing in blossom throughout the whole winter and spring.

DESCR. Our plant, rising from a large, tuberous root, forms a *shrub,* with rather spreading, terete *branches,* stellato-tomentose, as is almost every part of the plant. *Leaves* alternate, on long *petioles,* swollen at the base; cordate, usually deeply three-lobed,

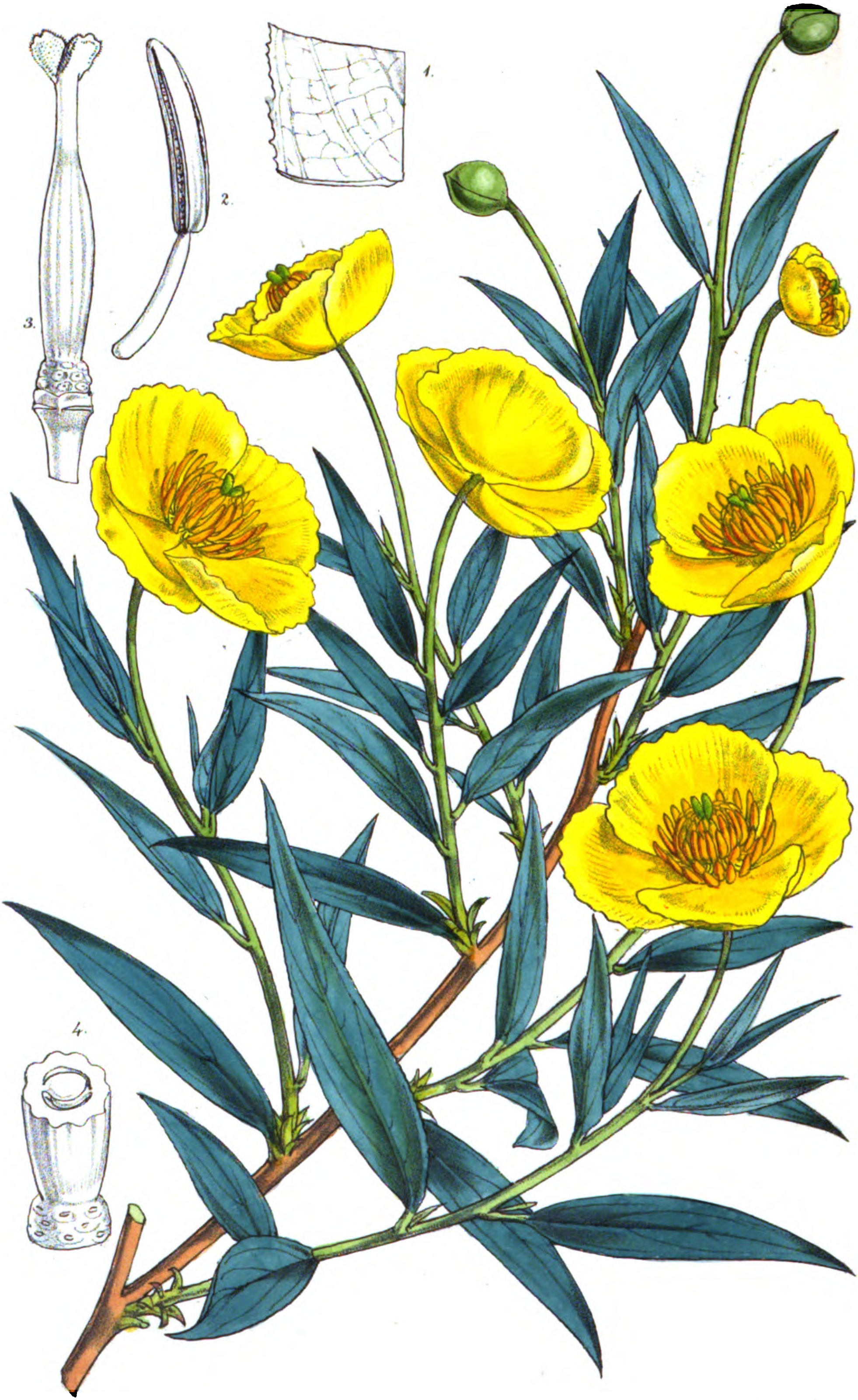
AUGUST 1ST, 1859.

occasionally quite undivided, sometimes obscurely five-lobed, soft and thick, sparsely tomentose above, densely so and somewhat fulvous beneath. *Flowers* polygamo-monoicous, nearly sessile in the axils of the leaves, jointed on the short petiole. *Calyx* red, between campanulate and infundibuliform, more than an inch long, palish-red; the *limb* cut into five, spreading, ovate, acuminate *segments*, each having three nerves or striæ; within, near the base, is a circle of close-placed, incurved, small, concave scales. *Male flower: column* nearly as long as the tube of the calyx, fusiform, downy in the middle, crowned with a dense, globose capitulum, of fifteen, sessile, yellow, two-celled, bright-yellow *anthers*. In the *hermaphrodite flower* a much shorter column bears a circle or ring of *anthers*, and this is crowned with the five, close-placed, very downy, ovate *ovaries*, tapering into *styles*, which are adnate just beneath the free, recurved, radiating stigmas. *Ovules* several in each ovary.

Fig. 1. Male flower, from which the greater portion of the calyx has been removed. 2. Hermaphrodite flower, ditto. 3. Summit of ditto, with the circle of anthers, and the five ovaries cut through transversely. 4. Anthers:—*magnified*.

5134

5134



W. Fitch, del et lith

Vincent Brooks, Imp.

TAB. 5134.

DENDROMECON RIGIDUM.

Rigid Tree-Poppy.

Nat. Ord. PAPAVERACEÆ.—POLYANDRIA MONOGYNIA.

Gen. Char. Sepala 2, ovata, caduca. *Petala* 4. *Stamina* plurima. *Filamenta* filiformia. *Antheræ* lineares. *Stigmata* 2, sessilia, brevia, crassiuscula. *Capsula* elongata, siliquæformis, 1-locularis, bivalvis; *valvis* coriaceis, duris, a basi ad apicem dehiscentibus. *Placentæ* marginales, filiformes. *Semina* plurima, majuscula, pyriformia, lævia.—Fruticulus *dense foliosus, rigidus, glaber*. Folia *lanceolata, acuta, denticulata, penninervia, reticulata, rugosa, rigida*. Pedunculi *axillares, uniflori*. *Benth.*

DENDROMECON *rigidum*.

DENDROMECON rigidum. *Benth. in Trans. Hort. Soc. Lond. 2nd ser. v.* 1. *p.* 407. *Hook. Ic. Pl. t.* 37.

This remarkably fine plant is one of the many interesting discoveries of the late David Douglas in California, and was first published as a new Papaveraceous genus by Mr. Bentham, in the Transactions of the Horticultural Society, above quoted, and well named *Dendromecon*, or *Tree-Poppy*, having all the aspect and character of the Poppy tribe, but with woody stem and branches. It was long, however, only known in the herbarium, but at length reared from seeds sent by Mr. William Lobb to Messrs. Veitch and Sons, Exeter and Chelsea Nurseries. It has proved quite hardy, and is really a handsome plant, flowering in the summer months.

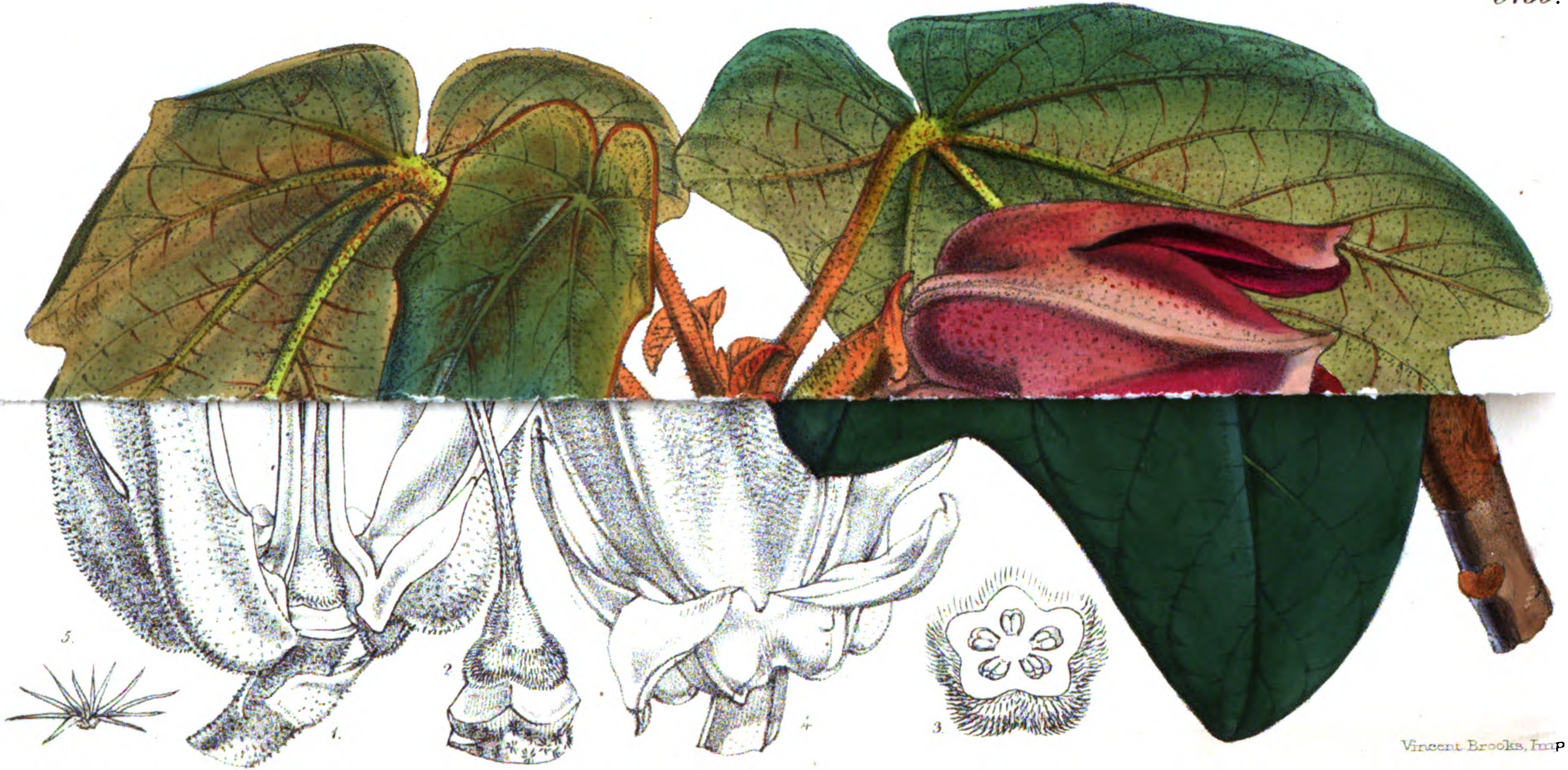
DESCR. A small erect *shrub*, with terete, straw-coloured, woody, alternate branches; the younger ones only herbaceous, and these having several small lanceolate scales or abortive leaves at their base. *Leaves* two to four inches long, on short *petioles*, exactly lanceolate, glabrous, acuminate, rigid, glaucous-green, penninerved, the nerves meeting and uniting a little within the margin, so as to give a three-nerved appearance to the leaf, the interstices reticulated, and the ultimate areoles having free forked veins within them; the margin is cartilaginous

AUGUST 1ST, 1859.

and minutely denticulate. *Flowers* solitary, terminal, two inches across. *Buds* globose, apiculate. *Sepals* two, orbicular, very concave, deciduous. *Petals* four, subrotundate, crenulate, spreading, bright-yellow. *Stamens* orange-colour, rather numerous. *Anthers* oblong, two-celled. *Filament* about equal in length to the anthers. *Ovary* oblong-cylindrical, furrowed. *Style* short. *Stigmas* large, spreading.

Fig. 1. Stamen. 2. Pistil. 3. Transverse section of ovary. 4. Portion of a leaf:—*more or less magnified.*

5135.



W. Fitch del. et lith.

Vincent Brooks, Imp.

TAB. 5135.

CHEIROSTEMON PLATANOIDES.

Mexican Hand-plant.

Nat. Ord. STERCULIACEÆ.—MONADELPHIA PENTANDRIA.

Gen. Char. Calyx basi bibracteolatus, subcampanulatus, 5-partitus; *laciniis* deciduis, crassis, intus coloratis, basi foveolatis, æstivatione quincuncialibus. *Corolla* nulla. *Tubus* stamineus cylindricus, exsertus, apice 5-fidus; *laciniis* secundis, apice mucronatis, diantheriferis; *antheræ* extrorsæ, adnatæ, lineares, rectæ, parallelæ, bivalves. *Ovarium* liberum, sessile, quinqueloculare. *Ovula* in loculis plurima, angulo centrali biseriatim inserta, adscendentia, anatropa. *Stylus* filiformis, apice incurvus; *stigma* acutum. *Capsula* oblonga, quinquangularis, quinquelocularis, loculicide quinquevalvis, *valvis* medio septa villosa, margine utrinque seminifera gerentibus. *Semina* plurima, ovoidea; *testa* crustacea, nitida, atra, *chalaza* rosea terminata. *Embryo* in axi albuminis carnosi, orthotropus, ejusdem fere longitudine; *cotyledonibus* foliaceis, ovatis, planis, *radicula* brevi, obtusa, umbilico proxima.—Arbor *Mexicana;* trunco *gracili, elato, coma densa globosa terminato;* ligno *albo, levissimo;* foliis *alternis, petiolatis, subrotundo-ovatis, acute 5–7-lobis, basi cordatis, supra glauco-virentibus, subtus albo-tomentosis;* stipulis *ovatis, acuminatis, deciduis;* pedunculis *in ramulis suboppositifoliis, solitariis, unifloris;* calyce *extus cano-tomentoso, intus purpureo. Endl.*

CHEIROSTEMON *platanoides.*

CHEIROSTEMON platanoides. *Humb. et Bonpl. Pl. Æquinoct. v.* 1. *p.* 82. *t.* 24. *Nov. Gen. Am. v.* 5. *p.* 302. *De Cand. Prodr. v.* 1. *p.* 480. *Adr. Juss. in Van Houtte, Fl. des Serres, v.* 7. *p.* 7. *t.* 619.

MACPALXOCHIQUAUHITL. *Hernandez, Hist. Pl. Nov. Hisp. ed.* 2. *p.* 531.

It was towards the latter part of the last century (about 1787) that a scientific expedition, under Sesse and Mociño, was sent by the Spanish Government to Mexico, then called New Spain, and where the attention of the botanists was attracted by a remarkable tree, venerated from time immemorial by the Indians on account of the peculiar structure of the large and very conspicuous flowers, which have their five stamens so arranged as to resemble the human hand, including the arm and wrist. It was believed to be a solitary tree, of which no other example existed, or could exist, in the world. Nor was it till about 1801 that a pupil of Professor Cervantes detected forests of the same tree in Guatemala, and near the city of that name. "This tree had

SEPTEMBER 1ST, 1859.

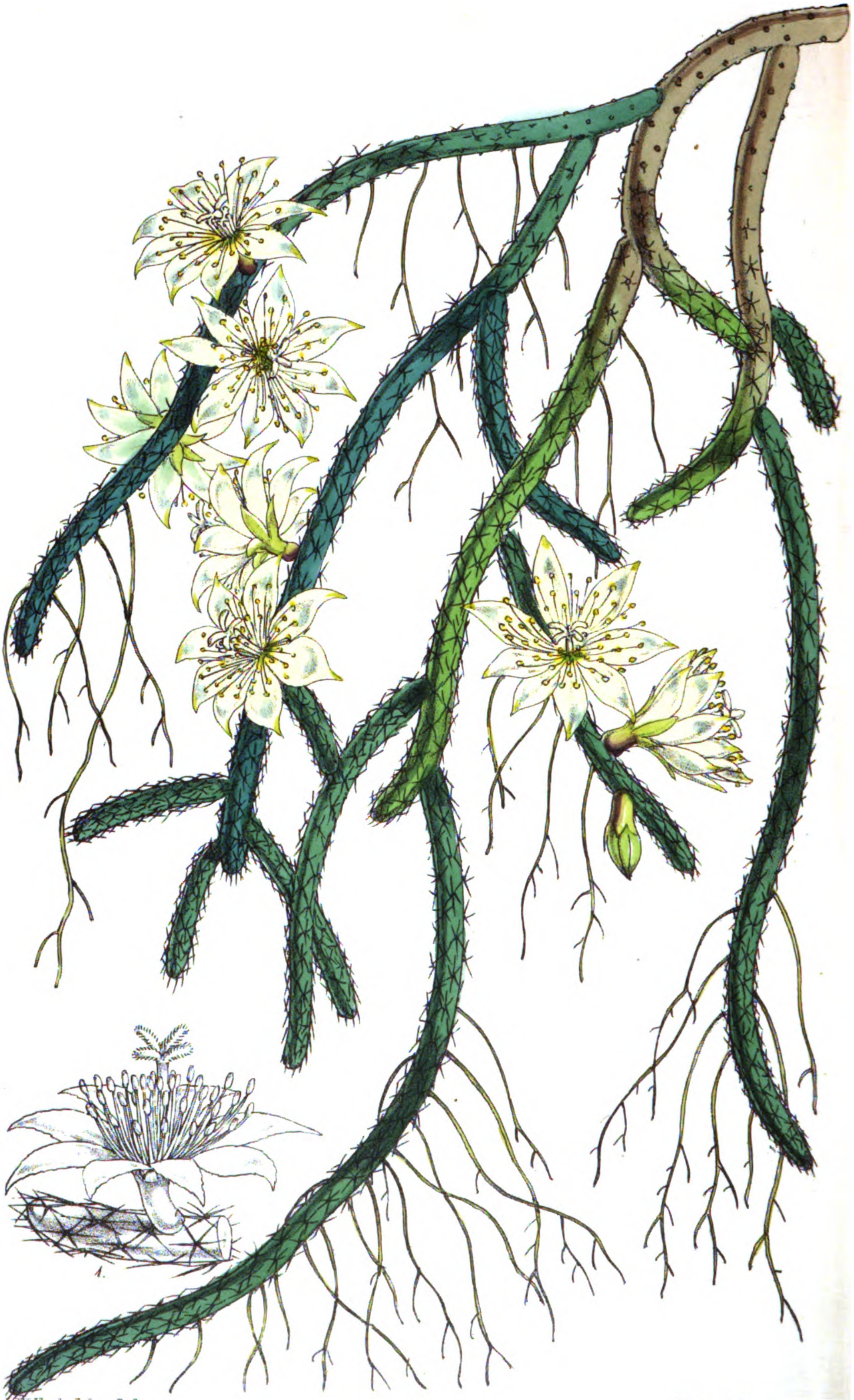
consequently," write Humboldt and Bonpland, who gave to this new genus the name of *Cheirostemon,* "been transported by the Indians of Toluca from its native woods, and that, too, long before the conquest of America, since it is recorded in the writings of authors, previous to the celebrated expedition to Mexico, under the Indian name *Macpalxochiquauhitl,* signifying *Hand-flower-tree.* It was, however, never botanically noticed till 1795, and then by Professor Cervantes. So great an object of curiosity was this with all the inhabitants of New Spain, that the flowers were gathered with avidity by the Indians even before their full expansion, and thus seeds were not allowed to ripen. Cuttings were transported to gardens in Mexico by Sesse and Mociño; and at length their labours were rewarded by one, and only one, succeeding."

Humboldt and Bonpland brought seeds to Paris on their return from Mexico, but none of them germinated. More perfect seeds were afterwards readily obtained. Humboldt, in 1811, speaks of its being in collections at Paris and Montpellier; and not long after Mr. Lambert seems to have introduced it to English gardens. A fine plant had been long in cultivation at Kew, where it has attained a height of twenty-three feet, but never showed any disposition to flower. Happily Charles Dorrien, Esq., of Ashdean, has been more successful, and fine and perfect flowers were produced in his garden in the spring of 1859, from which, by the kindness of this gentleman, our figures have been made. The specimens arrived in the most perfect state possible, and were accompanied by the following notes:—"The tree is evergreen, but loses part of its leaves in winter, so the branches are bare in the lower parts. It seems to like a temperature of about 50° or 55° in winter. The first blossoms are (May 27th, 1859) gone off, but there are now four more expanding. The flowers secrete (in the nectaries at the base within) a quantity of liquid like sugar-and-water, tasting and smelling like toast-and-water. Each blossom continues about a fortnight in perfection before it begins to fade. The plant propagates easily by cuttings."

Descr. Bonpland, in his full description, gives the height of the trunk of this tree at fifteen feet; yet in his notice of the plant flowering in the city of Mexico, states it at thirty feet. Our own individual is twenty-three feet, with a diameter of six inches, bearing a rather spreading crown of branches, clothed with handsome foliage, which is partially deciduous in the winter. *Leaves* very much confined to the extremity of the branches, as in many species of *Sterculia,* which the tree much resembles in habit, and the portion of the branches bearing the foliage is clothed with rusty-brown tomentum; the rest of the branches glabrous, with brown, smooth *bark,* or only scarred from the fallen leaves. The form of the *leaves* is cordate, rather obtuse, of a firm subcoriaceous texture, about six inches long by five broad, having a deep and acute sinus at the base; the margin is three- to seven-lobed, lower lobes very obtuse, entire, not serrated, as represented by Bonpland, five- to seven-nerved, and these principal nerves are united by transverse reticulated ones, prominent beneath; young leaves tomentose on both sides, older ones nearly glabrous above, densely tomentose beneath; the *tomentum* rich, ferruginous, composed of stellated hairs, as shown at Fig. 5. The youngest leaves have small recurved *stipules*. *Petioles* from three to four inches long. *Flowers* large, solitary, lateral, from among the crowded terminal leaves, and opposite to the insertion of a petiole. *Peduncle* an inch or an inch and a half long, obtusely triangular, very stout, curved, single-flowered, bearing two, ovate, acuminate, deciduous *bracts*, of which one is appressed to the flower. *Flower* four inches long, including the stamens. *Perianth* single, calycine, two inches long, and quite as much broad, thick, firm, coriaceous, downy, of a rusty-red colour, brighter and glabrous and glossy and somewhat wrinkled within, cup-shaped, deeply (two-thirds of the way down) divided into five, large, acute, erect lobes, which have the margins a little reflexed, and a strong dorsal keel, which terminates below in five gibbosities or *spurs*, forming internally as many deep nectariferous cavities, of a bright yellow colour. *Stamens* five, monadelphous, bright-red, nearly four inches long, one-third of them below uniting into a tubular column, which at the spreading base combines with the perianth, exhibiting five, spreading, yellowish rays or lobes, alternating with the nectariferous cavities; the rest of the stamens are free, and spread in a fan-shaped manner, like the fingers of the hand (whence the name *Cheirostemon*), or rather, like birds' claws, and like them curved to one side, cylindrical, very much acuminated. On the under side of these five filaments (and externally, with regard to the axis of the flower) are two, long, linear, yellow *anther-cells*, charged with copious bright-yellow *pollen*. *Ovary* quite concealed within the base of the monadelphous stamens, five-lobed, woolly, tapering into a bright-red, clavate *style*, shorter than the stamens, and bending towards them: this tapers into the acute stigma. The fruit we have only seen from dried native specimens. That here figured (nat. size) is taken from one in the Museum of the Royal Gardens of Kew: for its structure, see the generic character.

Fig. 1. Flower, with the perianth and staminal tube partially laid open,—*slightly magnified*. 2. Pistil. 3. Transverse section of ovary. 4. Stellated hairs of the leaf:—*magnified*. 5. Fruit,—*nat. size*.

5136



W Fitch, del et lith.

Vincent Brooks, Imp.

Tab. 5136.

RHIPSALIS SARMENTACEA.

Sarmentose Rhipsalis.

Nat. Ord. Cactaceæ.—Icosandria Monogynia.

Gen. Char. Perigonii tubus ultra germen non productus; *phylla* 12–18, sepaloidea brevissima squamiformia, petaloidea rotatim expansa. *Stamina* numerosa, longitudine subæqualia et limbum æquantia. *Stylus* filiformis. *Stigma* 3–6-radiatum. *Bacca* a principio emersa, pisiformis, glabra, matura pellucens, perigonio marcescente coronata. *Cotyledones* breves, acutæ.—Plantæ *pseudoparasitica, interdum subradicantes.* Caulis *articulato-ramosus, teres, angulosus, aut foliaceo-dilatatus, crenulatus;* crenæ *squamula vix conspicua instructæ, nudæ, sublanatæ vel setas minutas gerentes.* Flores *laterales (rarissime terminales), parvuli subephemeri. Salm-Dyck.*

Rhipsalis *sarmentacea;* caule gracili repente radicante ramoso terete obtusangulo, angulis 4–8 parum prominentibus, areolis confertis minutis subtomentosis, aculeis paucis (8–12, *Otto*) tenuissimis setaceis inæqualibus rectis niveis, floribus subsolitariis sparsis albis.

Rhipsalis sarmentacea. *Otto et Dietr. Allegm. Gartenz.* 1841, *p.* 98. *Walp. Repert. Bot. v.* 2. *p.* 244. *Cacteæ Hort. Dyck. p.* 60 *et* 229.

"Cereus lumbricoides, *Lem.*"

Native of Buenos Ayres and South Brazil. We had the satisfaction of receiving the branch of a tree from W. D. Christie, Esq., H.B.M. Minister Plenipotentiary, Argentine Republic, in the winter of 1858–9, covered with the creeping and rooting stems of this singular plant, which soon after being suspended from the roof of a warm stove, produced its delicate white flowers without any nourishment from soil. It probably runs over rocks in a similar manner.

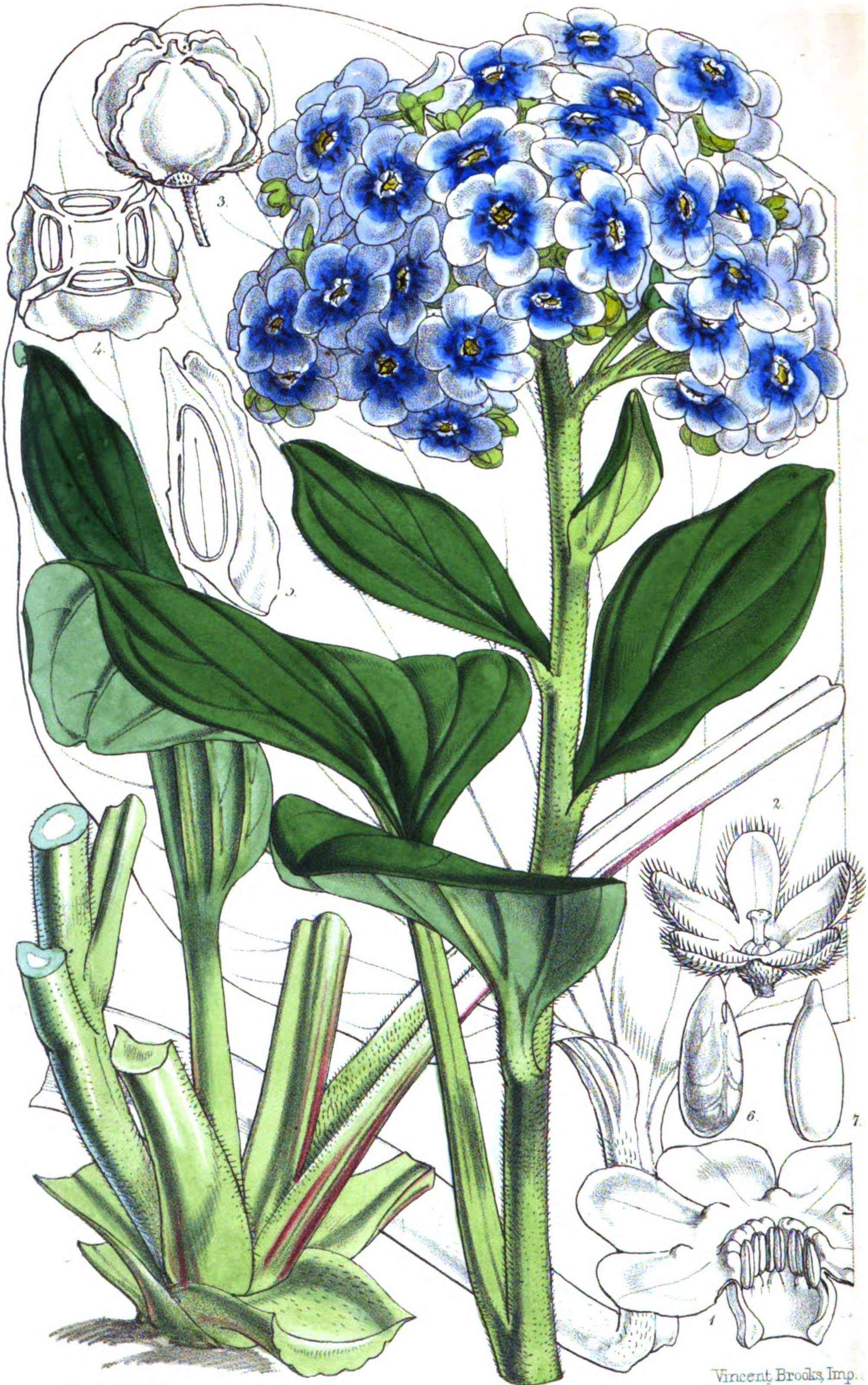
Descr. *Stems* prostrate, creeping, extending for a considerable length, and slightly attached to its place of growth by the suckers of the fibrous *roots*, branched. *Stems* and *branches* scarcely so thick as a goose-quill, terete, green, furrowed; furrows four to eight, shallow; angles, or ribs, very obtuse. *Areoles* minute, downy, bearing a few (four to six or seven), short, stellated, filiform, greyish or white *aculei*. *Flowers* solitary, scattered

September 1st, 1859.

on the branches, less than an inch in diameter when fully expanded. *Ovary* small, rather short, cylindrical. *Calyx* of a few, short, lanceolate, greenish scales, gradually passing into the oblong, lanceolate-acuminated, delicate white *petals*. *Stamens* moderately numerous; *filaments* long, spreading. *Ovary* terete. *Style* a slender column, a little longer than the stamens. *Stigma* of four, linear-oblong, spreading *lobes*.

Fig. 1. Portion of a branch, with a flower,—*slightly magnified*.

5137



W Fitch, del et lith.
Vincent Brooks, Imp.

TAB. 5137.

MYOSOTIDIUM NOBILE.

Antarctic Forget-me-not.

Nat. Ord. BORAGINEÆ.—PENTANDRIA MONOGYNIA.

Gen. Char. MYOSOTIDIUM, *Hook. Nov. Gen. Calyx* 5-partitus. *Corolla* hypogyna, hypocrateriformi-rotata, tubo brevi, fauce fornicibus quinque clausis, limbo 5-lobo, laciniis latis obtusis patentibus, sinubus plicatis. *Stamina* 5, paulo intra faucem inserta; *filamentis* brevibus. *Ovarium* quadrilobum, lobis apice plano-depressis. *Fructus* subpyramidatus. *Nuces* 4, dorso compressæ, læves, glabræ, erectæ, late alato-marginatæ, receptaculo 4-angulari affixæ; *alæ* rectiusculæ, undulatæ.—Herba *insulis Novæ-Zelandiæ* "*Chatham Islands*" *dictis habitans, subsucculenta;* radice *perenni;* foliis *inferioribus amplis, longe petiolatis, cordatis, glabris, parallelo-venosis, superioribus sessilibus, omnibus glabris, nitidis.* Corymbus *amplus, multiflorus;* pedunculis *ante anthesin scorpioideis.* Flores (*in ordine*) *majusculi, purpureo-cærulei.*

CYNOGLOSSUM nobile. *J. D. Hook. in Gard. Chron.* 1858, *p.* 240.

This very lovely Boragineous plant, which cannot fail to call to mind the favourite Forget-me-nots of Europe, is an inhabitant of Chatham Islands, off New Zealand, S. Lat. 44°, whence it was introduced to Europe through the medium of Mr. Watson, of St. Alban's, by whom a living flowering plant was exhibited at a meeting of the Horticultural Society of London, in March, 1858, and attracted much attention. With the inflorescence of a *Myosotis*, it has a fruit which, in the state of ovary, induced Dr. Hooker to refer the plant to *Cynoglossum:* but the fruit is quite different from the characters of both, approaching *Omphalodes* in the winged achenia or nuts, yet differing in the nature of that wing, not being in any way introflexed, nor are the nuts attached to the style, as in that genus. Its foliage is quite unlike any species of those genera, and we think it may justly be considered a new genus, ranking very near the Forget-me-nots. The whole stock of this choice plant is (we believe) in the possession of Mr. Standish, who sent the plant here figured to us in April, 1829.

DESCR. *Root* perennial. *Stem* herbaceous, a foot to a foot and

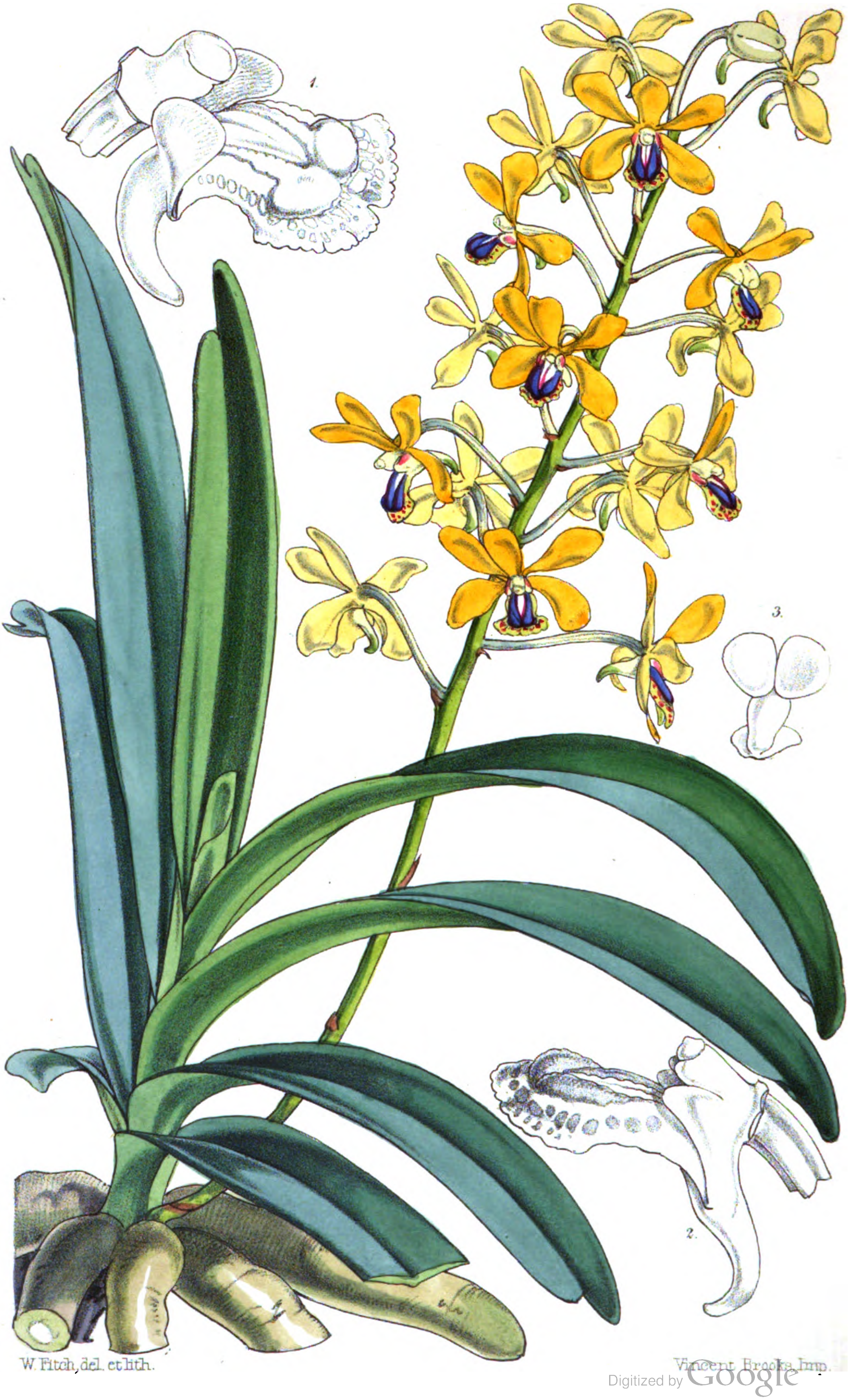
SEPTEMBER 1ST, 1859.

a half high, stout, succulent, terete, simple, leafy, glabrous below, pubescent above. *Root-leaves* numerous, very large (as large as a small cabbage, *J. D. H.*), cordate, very obtuse and even retuse, quite glabrous, succulent, glossy, parallelo-venose, on very long thick *petioles*, which are grooved on the upper side, sometimes tinged with purple: *upper* leaves gradually smaller, at length sessile and obovato-spathulate. *Corymb* terminal, large, four inches across, compound, leafless. *Calyx* deeply cut into five, oblong *lobes*, hispid on the outside. *Corolla* with a short tube and large spreading limb, more than half an inch across, of five rounded lobes, of a blue colour, gradually becoming paler and almost white towards the margin, the disc with a dark-purple ray. Five, yellow, glandular *scales* (as in *Myosotis*, etc.) close the mouth of the tube. *Stamens* included, on very short filaments, arising from near the mouth of the tube. *Ovary* 4-lobed, depressed and quite flattened at the top. *Style* very short. *Stigma* two-lobed. *Fruit* of four, dorsally-compressed, nearly erect, subcordate, broadly-winged *nuts* or *achenia*, attached to a quadrangular *receptacle*, which is terminated by the short remains of the style. *Seed* ovate, acuminate, laterally attached.

Fig. 1. Corolla, with the tube laid open, and showing the stamens. 2. Calyx and pistil. 3. Fruit, with its broadly winged nuts (represented as too much incorporated at the top). 4. The same, cut through transversely, and showing the receptacle. 5. Nut, cut through vertically. 6. Seed. 7. Embryo:—*magnified.*

5138

5138.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5138.

AERIDES WIGHTIANUM.

Dr. Wight's Aerides.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4982.)

AERIDES *Wightianum;* foliis loratis apice obliquis obtusis bilobis inter lobos cuspidatis, racemis strictis simplicibus multifloris foliis longioribus, sepalis petalisque ovalibus anticis majoribus, labelli infundibularis laciniis lateralibus pedi columnæ adnatis obtusis intermedia subcuneata apice triloba rotundata, disco lineis plurimis elevatis crispis cristato, calcare brevi conico. *Lindl.*

AERIDES Wightianum. *Lindl. in Wall. Cat. n.* 7320; *Gen. et Sp. Orchid. p.* 238; *Contrib. to the Orchidology of India, in Journ. Proceed. of Linn. Soc. v.* 3. *p.* 40. *Paxt. Fl. Gard. v.* 2. *sub t.* 66.

AERIDES testaceum. *Lindl. Gen. et Sp. Orchid. p.* 238.

VANDA parviflora. *Lindl. in Bot. Reg.* 1844; *Misc. p.* 57.

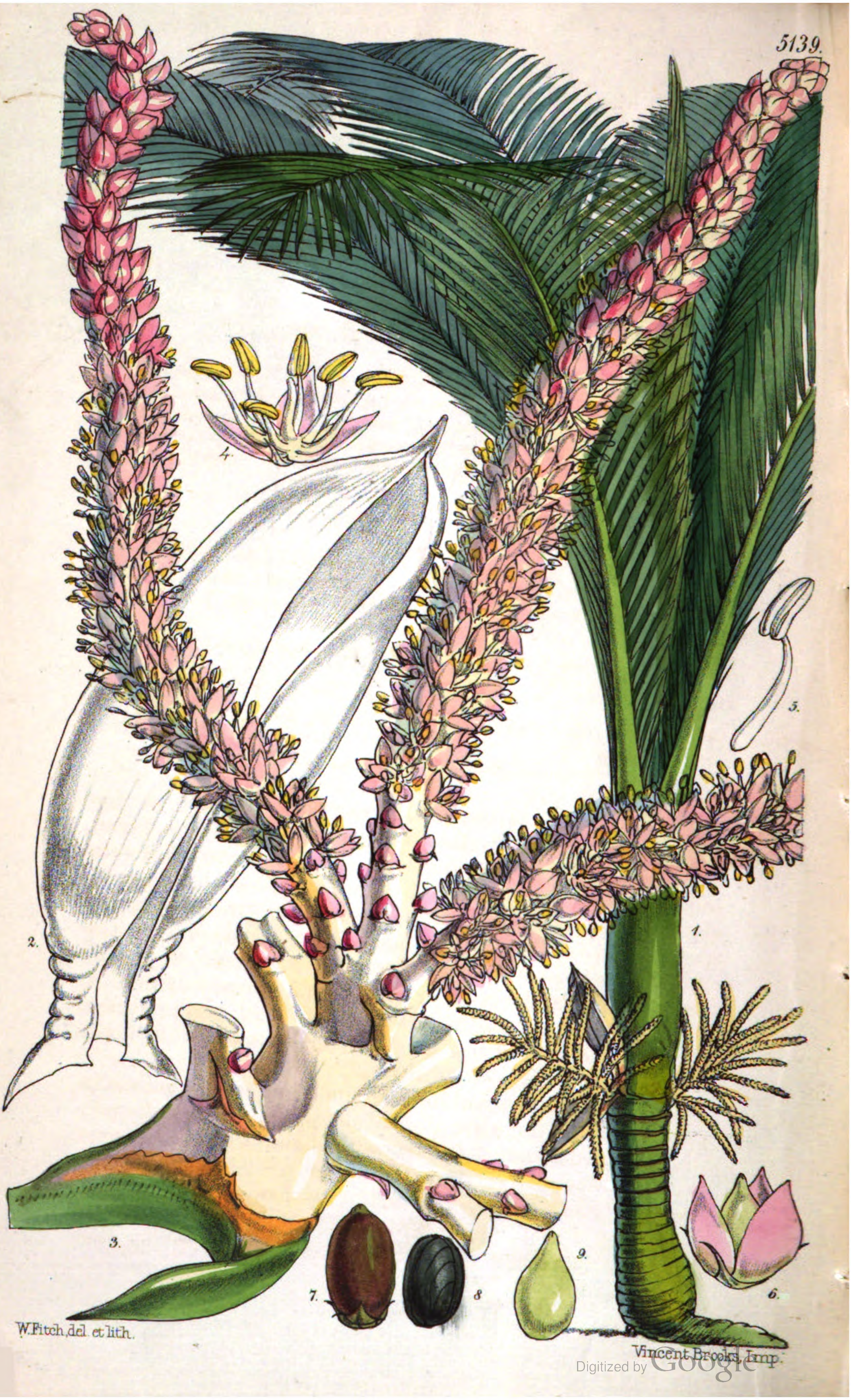
An inhabitant of Ceylon, *Champion;* Madras, *Wight;* Concan, *Law;* Bombay (*Loddiges*). Our plant here figured was communicated in June, 1859, by Messrs. Parker and Williams, of the Paradise Nursery, Holloway. Its chief beauty arises from the varied colour of the labellum when closely examined.

DESCR. Epiphytal. *Roots* large, thick, and fleshy. *Leaves* all radical, distichous, lorate, obtuse, singularly unequally notched at the apex, and having a mucro at the sinus beneath. *Raceme* arising from the base of the plant, longer than the leaves, many-flowered. *Sepals* and *petals* testaceous, much spreading, subuniform, obovato-spathulate. *Lip* projecting, three-lobed, side lobes small, incurved, middle one large, broad-oblong, testaceous beneath, dilated and crenate at the apex, semicircular, white above, with elevated lamellæ on the thick, fleshy *disc*, prettily dashed and spotted with purple; *spur* moderately long, obtuse, incurved. *Column* short, the base adnate with the lip and spur. *Anther-case* small. *Pollen-masses* yellow, compressed.

Fig. 1. Front, and 2, side view of the column, lip, and spur. 3. Pollen-masses:—*magnified.*

SEPTEMBER 1ST, 1859.

5139



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5139.

ARECA SAPIDA.

Southern Areca or Betel-nut.

Nat. Ord. PALMACEÆ.—MONŒCIA HEXANDRIA.

Gen. Char. *Flores* monoici, sessiles in eodem spadice, spatha duplici cincti; *masculi superiores* plerumque fœmineis 2 stipati. *Masc.: Perianthium* 6-partitum, 2-seriale; stamina 3–12. *Fœm.: Perianthii foliola* 6, imbricata, convoluta. *Ovarium* 1–3-loculare. *Stigmata* 3, sessilia. *Drupa* monosperma, fibrosa; *albumen* corneum, in sp. Novæ-Zelandiæ non ruminatum. *Embryo* basilaris. *J. D. H.*

ARECA *sapida;* foliis pinnatis, pinnis multijugis anguste lineari-lanceolatis replicatis terminalibus præmorsis, costis petioloque lepidotis, perianthii ♂ foliolis exterioribus angustis interioribus ovatis acuminatis, ♀ late ovatis, drupis ovoideis, albumine æquabili. *Hook. fil.*

ARECA sapida. *Sol. in Forst. Pl. Escul. Ins. Oceano Austral. p.* 66. *n.* 35. *Rich. Fl. Astrolabe, p.* 157. *All. Cunn. Prodr. Fl. Nov. Zel. in Hook. Comp. to Bot. Mag. v.* 2. *p.* 374. *Hook. fil. Fl. N. Zeal. v.* 1. *p.* 262. *t.* 59 *et* 60.

ARECA Banksii. *Mart. Palm. t.* 151 *et* 152. *Kunth, Enum. Pl. v.* 3. *p.* 185.

The importance of the noble Palm-house at Kew, is now beginning to be felt by the blossoming of many rare Palms, which have never before produced flowers in any European collections. Although one of the less lofty kinds of the princes of the Vegetable Kingdom, the present is an extremely elegant species, native of the Northern and Middle Islands of New Zealand (where the young inflorescence is eaten), and of peculiar interest, as being one of the most southern representatives of its Natural Order, occurring as far as latitude 38° 22′ south; whereas "38° is the limit of Palms in Australia, latitude 38° in South America, and latitude 30° in Africa."

As Dr. Hooker has had the opportunity of seeing and studying this plant in its native islands, and as he has recently published a good description, together with a figure of the inflorescence and fruit, we cannot do better than offer the following extracts from his 'Flora of New Zealand.' Its flowering season with us has been in the winter months. Mr. Allan Cunningham has applied to this Palm, Endlicher's description, drawn up from

SEPTEMBER 1ST, 1859.

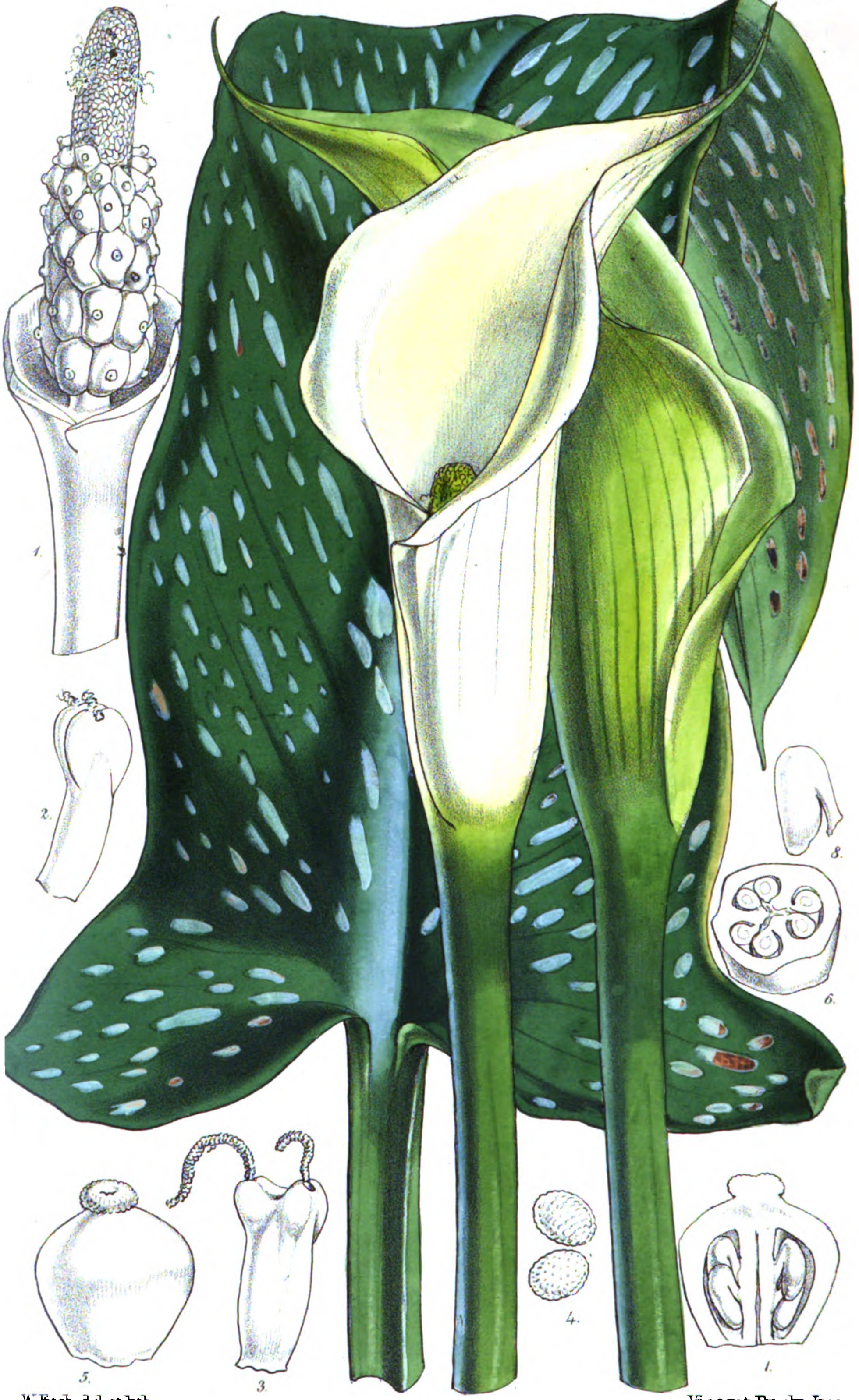
Ferdinand Bauer's drawing of Norfolk Island specimens (which have been considered by some as the same species); but this does not agree with the Zew Zealand plant in the shape of the drupe, said to be "globose" in Norfolk Island. Mr. J. Smith, of the Royal Gardens, Kew, has both of them in cultivation, and has pointed out a very considerable difference in habit, and in the breadth of the pinnules, those from Norfolk Island being twice as broad; but there is great variation in this respect in both species. Von Martius also separates them, but gives Forster's name to the Norfolk Island plant, whereas Forster's drawing is from the New Zealand one only, to which the name of *sapida* must remain attached, whilst that of *Baueri* may be given to the Norfolk Island species, if it prove really distinct.

The genus *Areca*, our species of which yields the well-known Betel-nut (*Areca Catechu*), is found in Asia and its islands; but the group to which *A. sapida* belongs, and which has a one-celled ovary, is supposed to be confined to New Zealand, Norfolk Island, and the Malay Archipelago. Mr. Brown distinguishes the Australian nearly allied Palm by the name of *Seaforthia* (see our Tab. 4961): it resembles the New Zealand Plant, but differs from it in having numerous stamens and ruminated albumen.

DESCR. *A. sapida* is a small Palm. Trunk six to twelve feet high (Allan Cunningham says twenty feet), six to eight inches in diameter. *Leaves* pinnate, four to six feet long; *pinnules* very narrow, linear-lanceolate, margins replicate; *nerves* and *costa*, and especially the *petiole*, covered with minute lepidote *scales*. *Spadix* much branched, densely flowered, eighteen to twenty-four inches long, enclosed in a double, boat-shaped *spatha*. *Flowers* very numerous, of a pale-pinkish colour, *males* and *females* intermixed, one of the former being generally placed between two of the latter, all sessile. Male *perianth* six-cleft, or of six, ovate, acuminate pieces, in two rows, outer one smaller. *Stamens* six, surrounding the rudiment of an ovary. *Female perianth* also of six broadly ovate leaflets, rolled round one another, and enclosing a one-celled ovarium, with three sessile stigmas and a pendulous ovule on one side of the cavity. *Fruit* an ovoid drupe, half an inch long, with a fibrous outer coat; the membranous *testa* thickened on one side down the *raphe; albumen* horny, the surface not ruminated. *Embryo* small, in the base of the albumen. *J.D.H.*

Fig. 1. Greatly reduced figure of a flowering plant. 2. Spatha. 3. Portion of spadix, with flowers:—*nat. size.* 4. Male flower. 5. Stamen. 6. Female flower:—*magnified.* 7. Drupe. 8. Seed:—*nat. size.* 9. Albumen,—*slightly magnified.*

5140



W Fitch, del et lith

Vincent Brooks, Imp.

TAB. 5140.

RICHARDIA ALBO-MACULATA.

Spotted-leaved Richardia.

Nat. Ord. AROIDEÆ.—MONŒCIA MONANDRIA.

Gen. Char. *Spatha* basi convoluta, limbo expanso marcescente. *Spadix* continuo androgynus, staminibus rudimentariis ovaria stipantibus, appendice sterili nulla. *Antheræ* plurimæ, liberæ, sessiles, biloculares; *loculis* connectivo late cuneato, superne in discum convexum glandulosum dilatato, prope marginem biporoso utrinque adnatis, vertice poro dehiscentibus. *Ovaria* plurima, conferta, libera, placentis parietalibus tribus axim attingentibus, incomplete trilocularia; *staminodiis* truncato-clavatis stipata. *Ovula* in placentis parietalibus gelatinosis, pauca, superposita, e funiculis longiusculis anatrope pendula. *Stylus* brevis; *stigma* convexiusculum, glandulosum. *Baccæ* uniloculares, oligospermæ. *Semina* obovata, e funiculo longiusculo, *testæ* crassæ carnosæ adpresso, inversa, umbilico tuberculiformi. *Embryo* in axi albuminosis antitropus, eoque dimidio brevior, extremitate radiculari incrassata, umbilico e diametro opposito, infera.—Herbæ *Capenses;* foliis *radicalibus erectis, longe petiolatis, subhastato-cordatis, nervosis;* petiolis *basi vaginantibus, scapum centralem, subtrigonum, inferne amplexantibus;* spatha *maxima, candida. Endl.*

RICHARDIA *albo-maculata;* foliis subflaccidis hastato-ovatis acuminatis albo-maculatis, venis opacis, spatha apice erecta basi intus colorata, spadice subincluso.

Professor Kunth, with great propriety, separated the genus *Richardia* among *Aroideæ* of the southern hemisphere, from the genus *Calla* of Linnæus, peculiar to Europe and America, in the northern hemisphere. *Richardia* has hitherto only been represented by one species, the old *Calla Æthiopica,* Bot. Mag. t. 832 (Richardia Africana, *Kth.*), of the Cape of Good Hope. We have lately had the satisfaction of receiving at one and the same time, from our friends Messrs. Backhouse, of York, and Messrs. Veitch, of the Exeter and Chelsea Nurseries, two species (or possibly varieties), both from Natal, flowering in the greenhouse in June of the present year. At present I shall confine myself to the subject before us, from Mr. Backhouse, which I name *albo-maculatum,* though I am far from sure that the spotting, albeit very copious, is permanent. Where the spots are, the substance of the leaf is very thin and translucent, owing

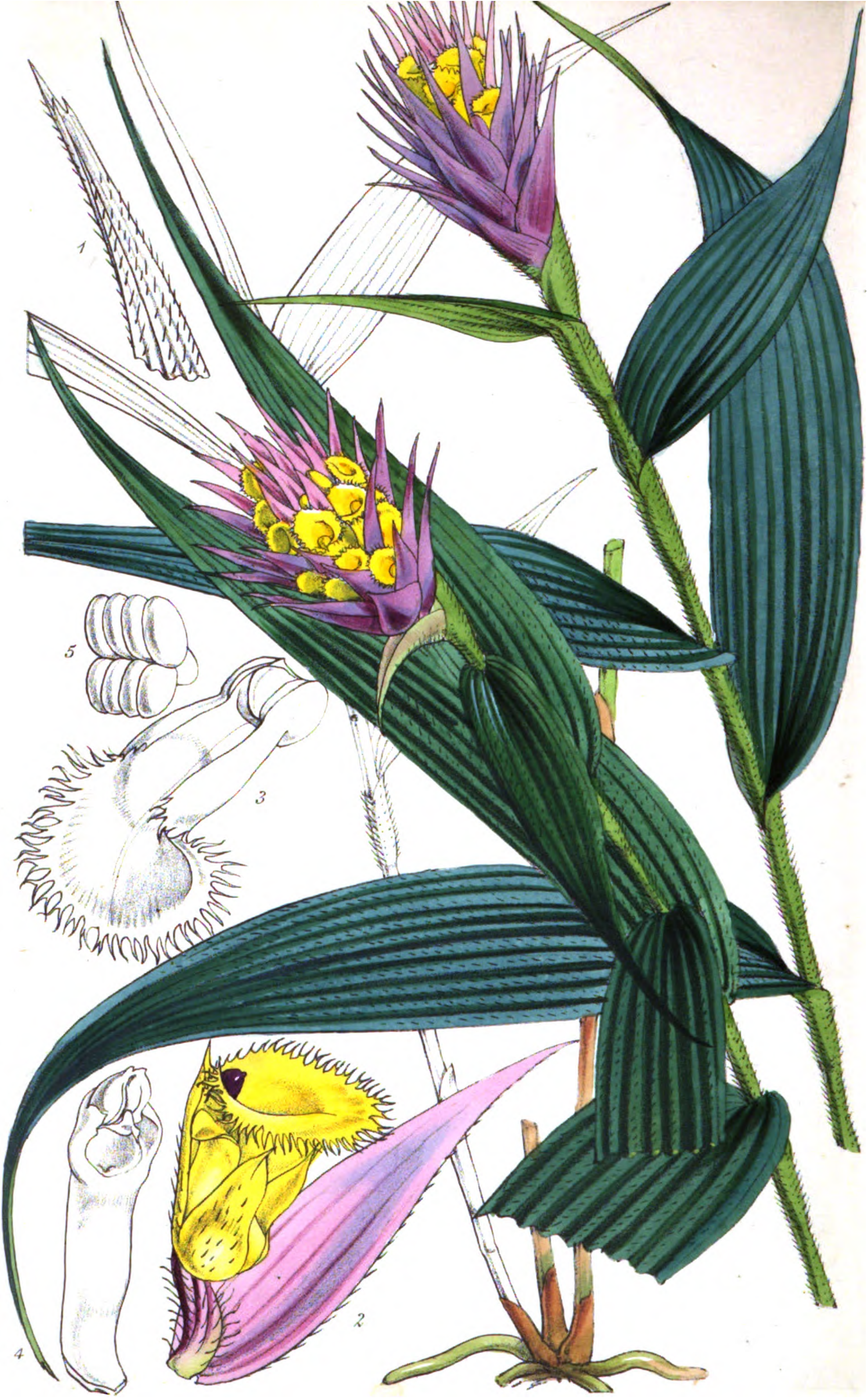
OCTOBER 1ST, 1859.

to an entire absence of colouring matter. As a species, this is perfectly distinct from *R. Africana,* in the different form and in the almost coriaceous texture of the leaves of the latter, which are moreover abundantly marked with pellucid veins, and they have a pellucid edge; nothing of the kind exists in our present species. The spatha, above the involute portion, is much narrower, and never reflexed; the interior base is coloured, and the spadix is much shorter than in *R. Africana.* This will probably prove as hardy as the latter mentioned. The other *Richardia,* from Messrs. Veitch, we shall notice on a future occasion.

DESCR. The general structure and aspect so much resembles that of the well-known *R. Africana,* that it will suffice to notice the distinguishing marks from that species. The *foliage* is of a much thinner texture, flaccid, and submembranaceous, paler in colour, truly hastate (not sagittate) in form, destitute of pellucid veins and margin; the *petioles* are more slender. The *spatha* is much less expanded and less broad above the convolute portion, and this portion is nearly erect, not recurved; the inside is purple at the base. The *spadix* is much shorter, and especially the staminiferous portion, in relation to the pistilliferous base. The ovaries and young fruits have their cells varying from one to five.

Fig. 1. Spadix, with pistils and stamens:—*nat. size.* 2, 3. Stamen. 4. Grains of pollen. 5. Young fruit. 6. Transverse, and 7, vertical section of the same. 8. Ovule and funicle:—*magnified.*

5141



W Fitch, del et lith

Vincent Brooks, Imp

TAB. 5141.

EVELYNA CARAVATA.

Aublet's Evelyna.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. EVELYNA, *Pœpp.*—*Perigonii foliola* exteriora erecta, libera; *interiora* subæqualia. *Labellum* cum pede columnæ continuum, circa eandem convolutum, obcordatum, basi saccata bicallosum, disco nudum. *Columna* ovario continua, basi parum producta, semiteres, clavata, medio antice processu brevi aucta. *Anthera* terminalis, bilocularis, loculis incomplete quadriloculocellatis. *Pollinia* 8, collateralia, basi quaternatim subcohærentia.—Herbæ *Peruvianæ* (*Americæ tropicæ*); caulibus *vaginatis, foliosis;* floribus *spicatis v. subcapitatis, imbricato-bracteatis. Endl.*

EVELYNA *Caravata;* piloso-hispida, spicis capitatis, labelli lobo medio longe ciliato.

EVELYNA Caravata. *Lindl. Fol. Orchid. part* 5. *p.* 9 (*note under* Sobralia).

SERAPIAS Caravata. *Aubl. Guian. v.* 2. *p.* 816. *t.* 320.

CYMBIDIUM hirsutum. *Willd. Sp. Pl. v.* 4. *p.* 94.

SOBRALIA? Caravata. *Lindl. Gen. et Sp. Orchid. p.* 177.

EVELYNA lepida. *Rchb. f.* (*in Hambr. Gart. Zeit.* 1859?).

It fell to the lot of the distinguished German traveller and botanist Dr. Pœppig, to dedicate a genus of plants to our countryman John Evelyn, an eminent patriot of the seventeenth century, and author of 'Sylva; or a Discourse of Forest Trees, and the Propagation of Timber in His Majesty's Dominions;' to which is annexed 'Pomona; or an Appendix concerning Fruit Trees, as relating to Cider;' and as a sequel to this work he afterwards published his 'Terra; a Philosophical Discourse of Earth, relating to the Culture and Improvement of it for Vegetation, and the Propagation of Plants.' The first of these works alone would richly entitle him to this honour.

The species which were selected, as belonging to this new genus, are five in number, all discovered by Dr. Pœppig during his Peruvian travels. Dr. Lindley, however, ascertained that the first known species referrible to this genus was derived from the eastern side of South America, the one here figured, a native of French Guiana, and well figured by Aublet: to this locality we

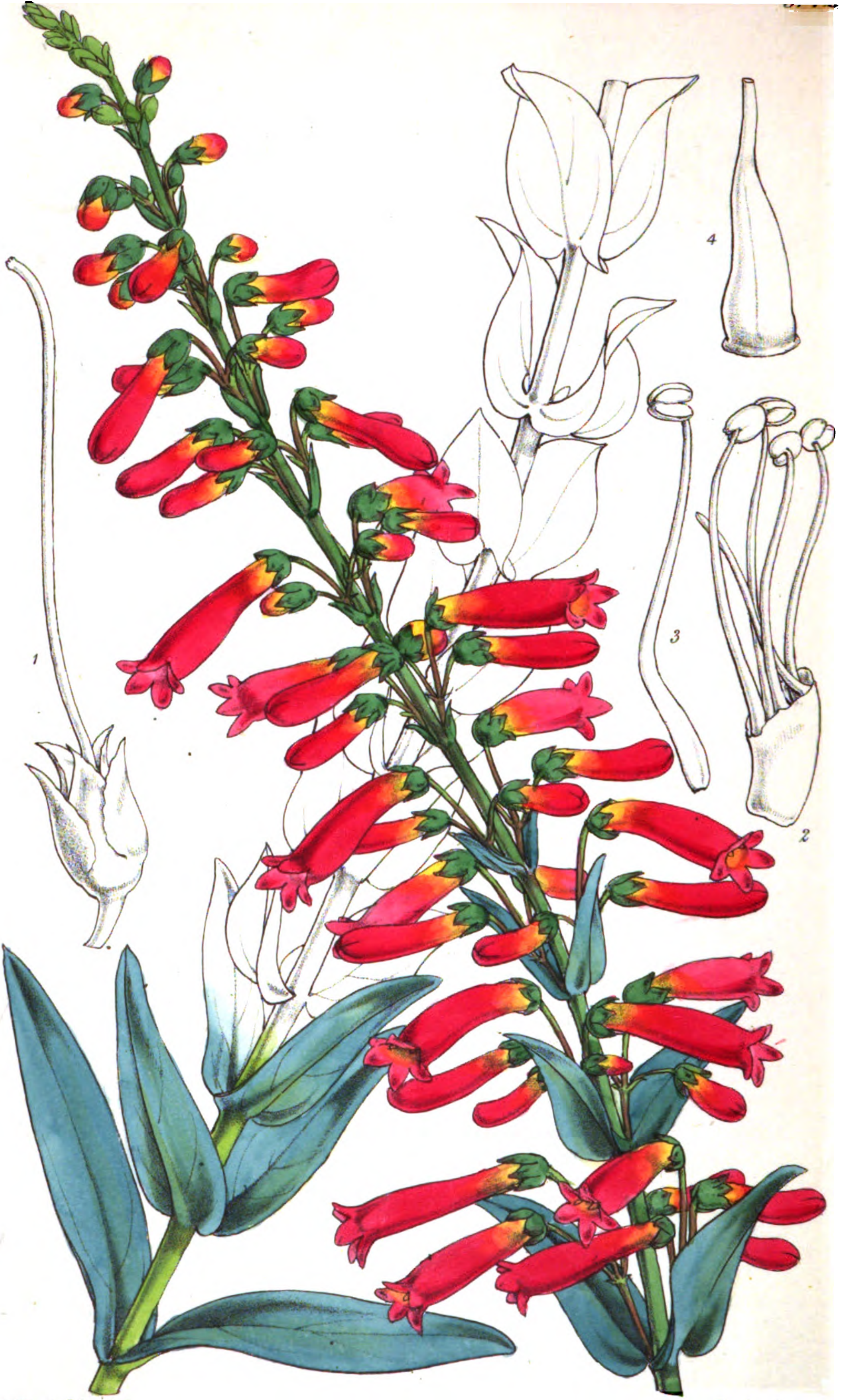
OCTOBER 1ST, 1859.

may now add Jamaica, where it was found by the late Dr. M'Fadyen, and by him communicated to our Herbarium. It is at once distinguished by the copious black rigid hairs investing the stem and leaves and ovary and even the calyx. The bracts are remarkable for their purple colour, while the flowers are bright-yellow. Plants communicated by Mr. Van Houtte, flowered with us in November, 1858, when our figure was taken Dr. Lindley has kindly given the above synonyms.

Descr. An *epiphyte,* attaching itself to the trunks and branches of trees in its native forests. *Stem* about a foot high, erect, slender, terete, about as thick as crow's-quill, hispid, as is all the foliage, and more or less the bracts and calyx, with rigid, black, short, moderately patent *hairs. Leaves* distant, on long, sheathing bases, lanceolate, rigid, very long, and gradually and finely acuminate; with two teeth below the spinulose apex, six to eight inches long, more than an inch wide, plicato-nervose, harsh and rigid, gradually smaller and more approximate upwards, rather suddenly passing into coloured bracts. *Spike* elongato-capitate, very compact, formed of numerous, erecto-patent, purple, lanceolato-acuminate, imbricated, striated *bracts,* longer than the flowers. *Flowers* bright-yellow, with a short, purplish, inferior, twisted ovary. *Calyx* of three ovato-lanceolate, suddenly acuminate, nearly erect *sepals. Petals* shorter than the lip, as are the oblong, obtuse, nearly erect *petals. Lip* large, erect, three-lobed: lateral lobes short, incurved; terminal one large, subrotund, deeply and beautifully fringed: the disc at the base white, furnished with two large *glands,* which correspond with two obtuse *spurs* or gibbosities on the under side of the base of the lip. *Column* shorter than the lip, erect, nearly terete, white. *Anther* dark-purple, sunk into the two-toothed clinandrium. *Pollen-masses* eight, in two series.

Fig. 1. Apex of a leaf. 2. Flower and bract. 3. Labellum, seen from above. 4. Column and anther. 5. Pollen-masses:—*magnified.*

5142



W. Fitch, del et lith

Vincent Brooks, Imp.

TAB. 5142.

PENTSTEMON CENTRANTHIFOLIUS.

Red Valerian-leaved Pentstemon.

Nat. Ord. SCROPHULARIEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. (*Vide supra*, TAB. 4318.)

PENTSTEMON *centranthifolius;* elatus, glaucus, foliis inferioribus oblongis superioribus amplexicaulibus oblongo- v. ovato-lanceolatis, panicula elongata virgata secunda, calycis segmentis lato-ovatis acuminatis margine membranaceis, corollæ tubo elongato vix ampliato, filamento sterili glabro filiformi.

PENTSTEMON centranthifolius. *Benth. Scroph. Ind. p.* 7, *in note. De Cand. Prodr. v.* 10. *p.* 323.

CHELONE centranthifolia. *Benth. Trans. Hort. Soc. Lond. n. ser. v.* 1. *p.* 481. *Lindl. Bot. Reg. t.* 1737.

A native of New California, where it was detected and introduced to England by the indefatigable Douglas. Mr. Fremont is also recorded as having found it in the Rocky Mountains, probably of South California, but the precise locality does not appear to be recorded. Mr. Bentham, who first described the plant, observes that it has the habit of *P. speciosus*, but is easily distinguished by having the corollas tubular and scarlet, with the form of *P. Hartwegii*, scarcely more than an inch long. It was communicated to us by Mr. Thomson, of Ipswich, in July, 1859. It is very ornamental in our gardens, and deserves to be more cultivated than it is.

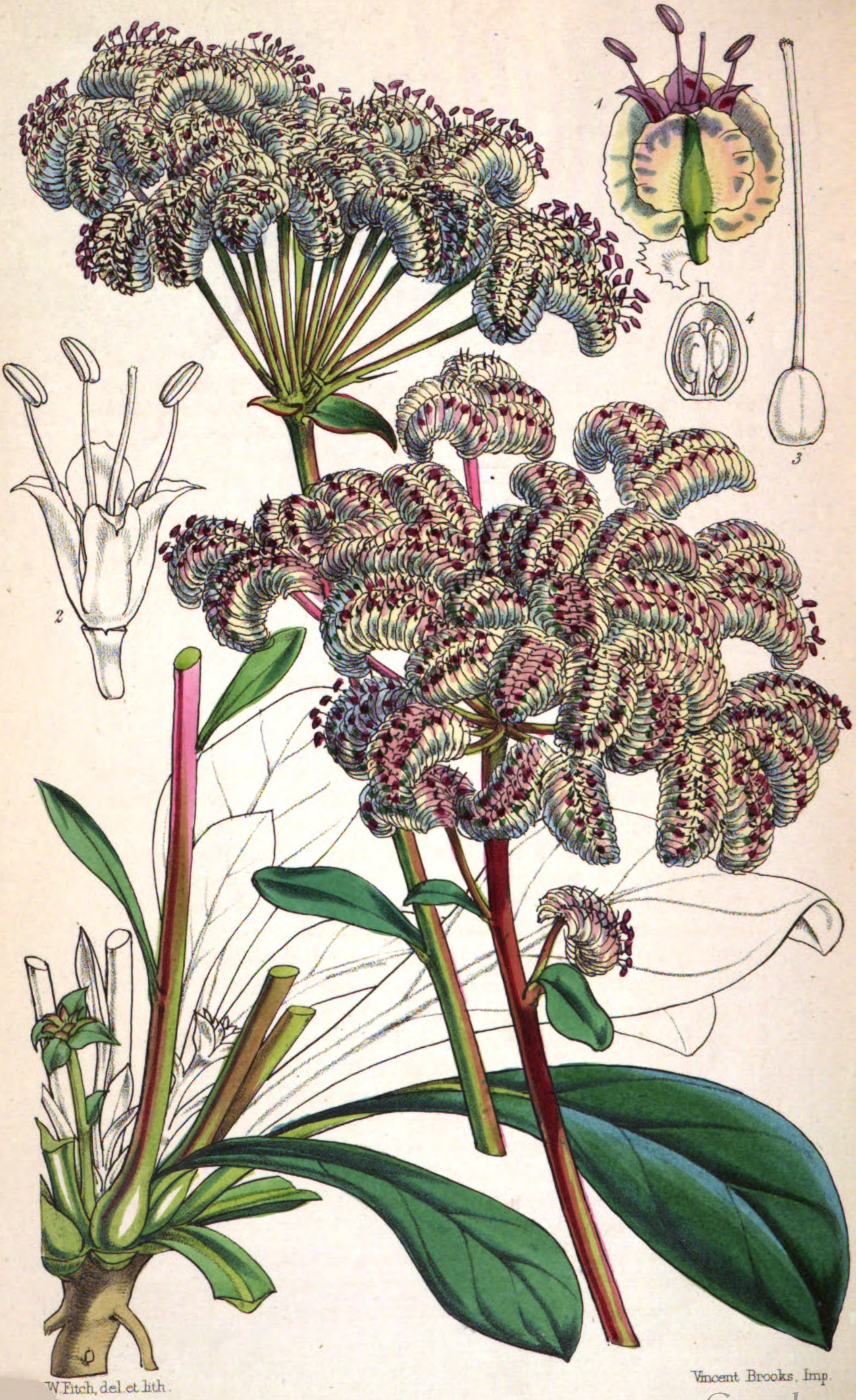
DESCR. Perennial; one and a half to two feet high. *Stems* erect, virgate, terete. *Leaves* glaucous, all sessile, erecto-patent, superior ones almost semiamplexicaul at the base, oblong-lanceolate or cordato-ovate, broader and shorter near the middle of the stem, gradually diminishing in the panicle, and passing into small lanceolate *bracts*. *Peduncles* axillary in a leaf or bract, generally three-flowered. *Peduncle* and *pedicels* slender, red. *Calyx* of five, deep, broad, ovate, acuminate, imbricated *segments*, close-pressed to the base of the corolla. *Corolla* nearly an inch and

OCTOBER 1ST, 1859.

a half long; *tube* rather slender, straight, slightly dilated upwards, red: the mouth of five, equal, spreading, short, acute segments. *Stamens* included: fifth *sterile stamen* filiform, beardless. *Ovary* lanceolate, glabrous. *Style* included, slender. *Stigma* obtuse.

Fig. 1. Calyx and pistil. 2. Stamens. 3. Single stamen. 4. Ovary:—*magnified*.

5143



W.Fitch, del.et lith.

Vincent Brooks, Imp.

TAB. 5143.

SPRAGUEA UMBELLATA.

Umbellate Spraguea.

Nat. Ord. PORTULACACEÆ.—TRIANDRIA MONOGYNIA.

Gen. Char. SPRAGUEA, *Torr.*—*Calyx* disepalus, persistens; *sepalis* suborbiculatis, basi cordatis, emarginatis, membranaceis, patentibus. *Corollæ petala* 4; *æstivatio* imbricata, libera; duobus exterioribus sepalis alternantibus, interioribus sepalis oppositis. *Stamina* 3, petalis oppositis. *Ovarium* uniloculare. *Ovula* 8–10, basilaria. *Stylus* filiformis, apice trifidus; *lobis* intus stigmatosis. *Capsula* membranacea, compressa, unilocularis, bivalvis. *Semina* 2–5, lenticulari-compressa, nigra, nitida, estrophiolata.—Herba *Californica, perennis, glabra;* caulibus 1–5, *scapiformibus, e caudice brevi ortis, remote squamosis;* floribus *confertis, scorpioideo-spicatis;* spicis *plurimis, aphyllis, umbellatis, terminalibus. Torrey.*

SPRAGUEA *umbellata.*

SPRAGUEA umbellata. *Torr. in Plantæ Fremontianæ, p.* 4. *t.* 1.

This very singular plant is a native of California, and was first detected by Col. Fremont at the Forks of the Nozah river, in the foot-hills of the Sierra Nevada of northern California, in flower and fruit in the month of May. From those native specimens it was constituted a new genus by the excellent Dr. Torrey, and dedicated to "Mr. Isaac Sprague, of Cambridge, Massachusetts, so well known as a botanical draughtsman, and especially for the admirable illustrations of the Genera of the Plants of the United States by himself and Dr. Asa Gray." It has since been found by other and by English collectors in California, and it has been introduced alive to the gardens of Messrs. Veitch, at Exeter and Chelsea, through Mr. William Lobb, and to those gentlemen we are indebted for the beautiful specimens here figured. It was exhibited in July of this year at a meeting of the Horticultural Society, and "commended as a very elegant dwarf-flowering species, of novel character, well adapted for rock-work, and the margins of flower-borders, having proved quite hardy in Mr. Veitch's nursery."

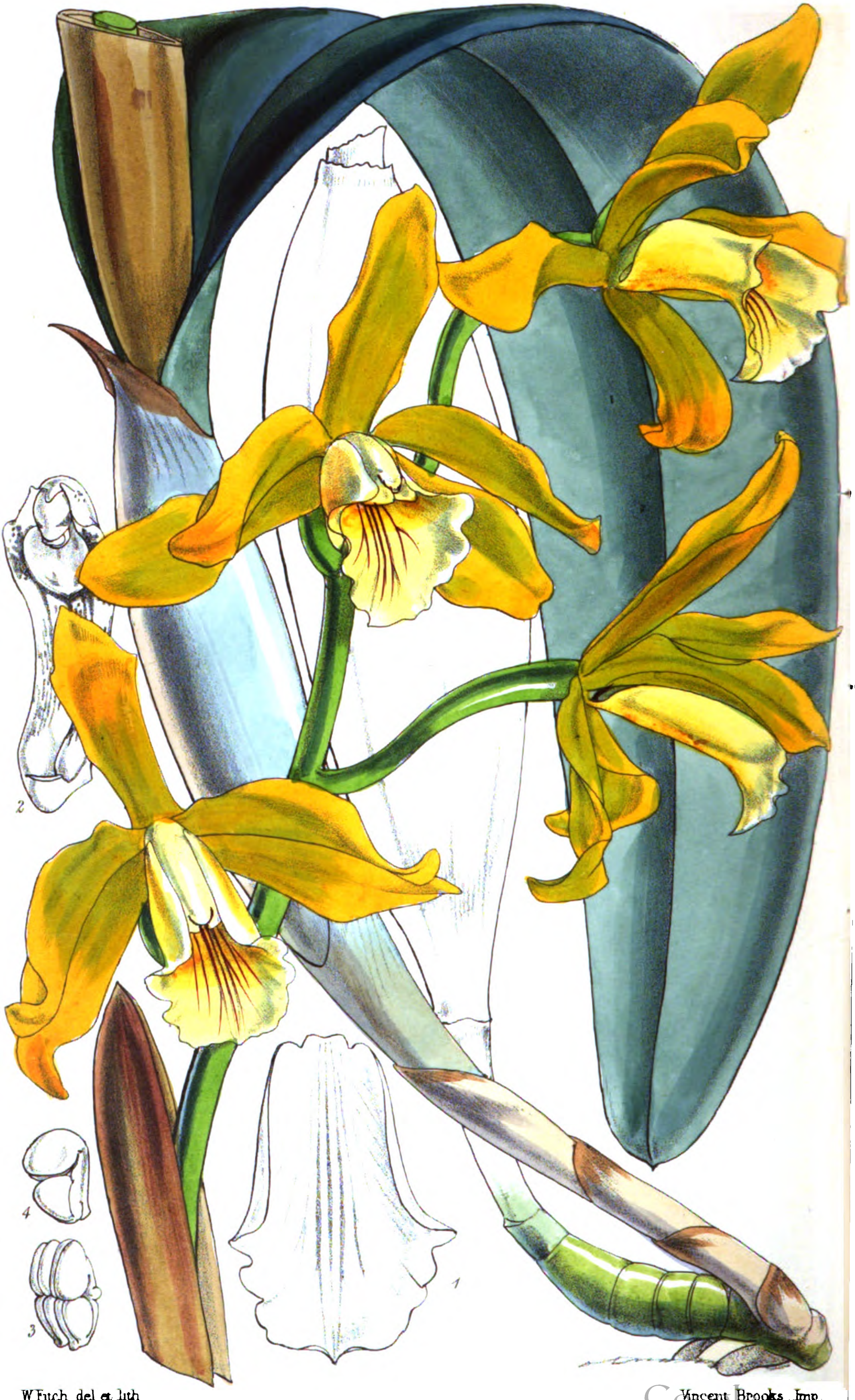
DESCR. Perennial. *Root* subfusiform, branched. *Stems* three to five or more, erect, terete, bearing a few, distant, small, spathulate *leaves*, one and a half to two inches long, while the *radical*

OCTOBER 1ST, 1859.

ones, of the same shape, are rosulate, five to six inches long. *Involucre* of a few small but unequally sized sessile leaves or *bracts*. *Umbel* compound, of many rays, the primary ones bearing three to four, secund, crest-like, scorpioid *spikes*, formed of the closely imbricated, two-ranked flowers, white, beautifully tinged with purple, and dotted with the dark-purple exserted *anthers*. *Flowers* nearly sessile on the spike, generally with a small *bracteole* (a third abortive sepal?), scariose with a serrated edge. *Calyx* of two, erect, orbiculari-cordate, unequal, scariose *sepals*, much larger than the corolla. *Corolla* of four, red, apiculated, ovate, erecto-patent *petals*. *Stamens* three, purple: *filaments* longer than the petals and sepals. *Anther* purple, oblong. *Ovary* broad-oval: *ovules* few, four to six, erect from the bottom of the cell, and elevated upon seed-stalks.

Fig. 1. Flower. 2. Corolla, including stamens and pistil. 3. Pistil. 4. Ovary cut through vertically, showing the seeds:—*magnified*.

5144



W Fitch. del et lith
Vincent Brooks. Imp.

TAB. 5144.

LÆLIA XANTHINA.

Yellow-flowered Lælia.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. *Sepala* explanata, lanceolata, æqualia. *Petala* majora, paulo difformia, carnosa, explanata. *Labellum* posticum, 3-partitum, lamellatum, circa columnam convolutum. *Columna* aptera, carnosa, antice canaliculata. *Anthera* opercularis. *Pollinia* 8, caudiculis 4 elasticis.—Herbæ *epiphytæ;* rhizomate *pseudobolbophoro.* Folia *carnosa.* Scapi *terminales, pauci- v. multi-flori.* Flores *speciosi, odorati. Lindl.*

LÆLIA *xanthina;* folio oblongo-lorato coriaceo pseudobulbo fusiformi longiore, racemo 4–5-floro, bracteis obsoletis, sepalis petalisque oblongis obtusis subæqualibus undulatis valde convexis, labello cucullato subquadrato antice obtuse trilobo, venis in appendiculatis. *Lindl. Mst.*

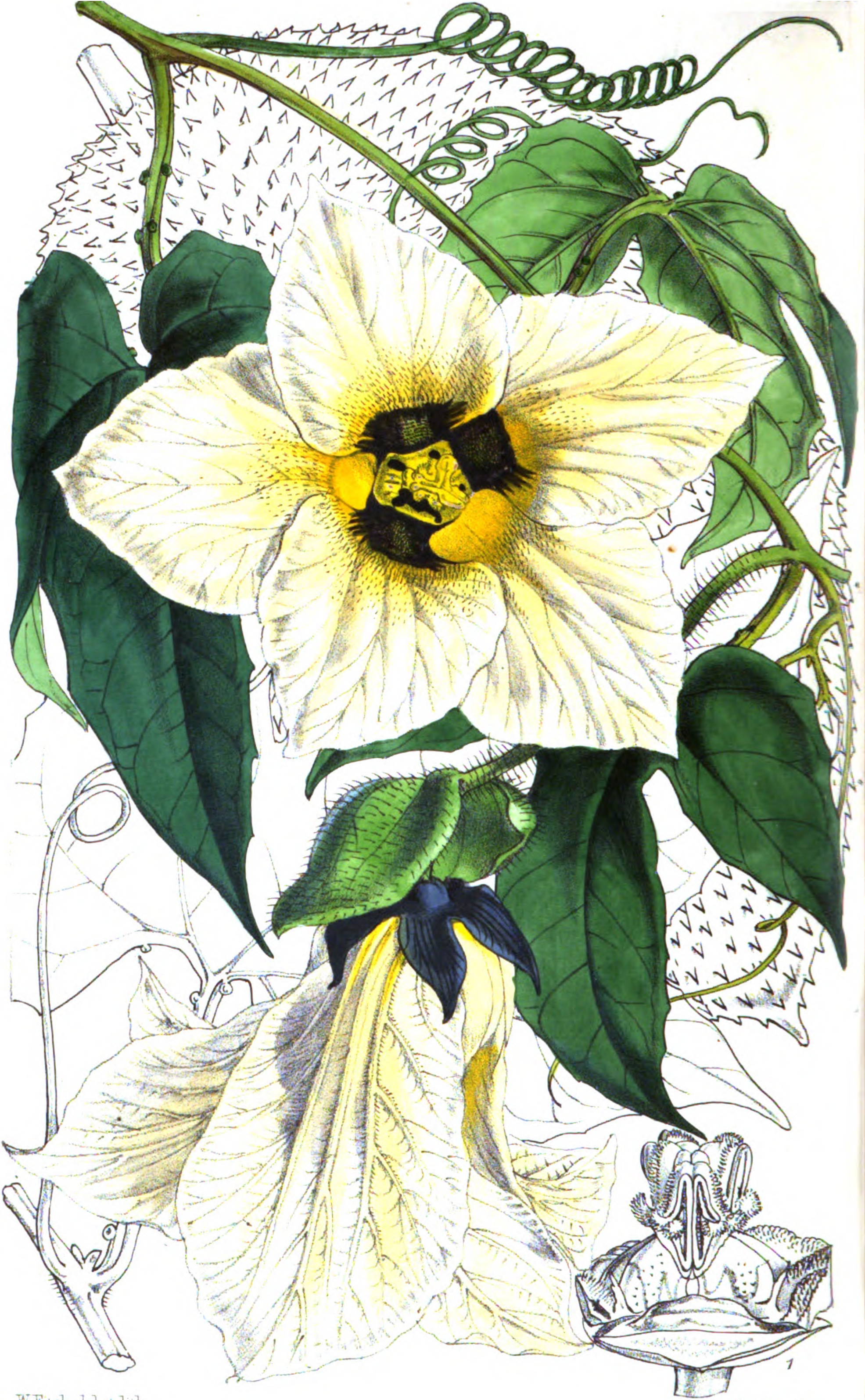
We are indebted to Messrs. Backhouse and Son, of the York Nursery, for the opportunity of figuring this fine and new Brazilian *Lælia* (imported by them), and to Dr. Lindley for the above specific character and following remarks.

"This resembles *Lælia flava* (Bot. Register, 1842, t. 62), but is far larger and handsomer. It most especially differs in the undulated sepals and petals being leathery and very convex, in consequence of their sides being rolled backwards, and in the form of the lip, which when spread flat is nearly quadrate, the front side, which is widest, being divided into three shallow lobes of equal depth, while the lip of *Lælia flava* is deeply three-lobed, the middle lobe being crisp and much longer than the side ones. Moreover, in the plant now before me, the lip has no trace of raised veins, while, on the contrary, in *Lælia flava,* it has four in the middle very conspicuously raised above the general level." *Lindl.*

Fig. 1. Labellum. 2. Column and anther. 3, 4. Pollen-masses :—*magnified.*

OCTOBER 1ST, 1859.

5145



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5145.

MOMORDICA MIXTA.

Large-flowered Momordica.

Nat. Ord. CUCURBITACEÆ.—DIŒCIA MONADELPHIA.

Gen. Char. Flores monoici v. dioici. MASC. *Calyx* brevissime campanulatus, quinquepartitus, patens. *Corolla* calyci inserta, quinquepartita; *laciniis* patentibus, obtusis, subundulatis. *Stamina* 5, imo calyci inserta, 3-adelpha. *Filamenta* brevia, crassa. *Antheræ* conniventes, uniloculares, loculo lineari, connectivi crassi undulati margini extus adnato. FŒM. *Calyx* tubo obovato v. subcylindrico, cum ovario connato; *limbo* supero, quinquepartito, patulo. *Corolla* maris annulo epigyno inserta. *Stamina* rudimentaria, styli basim cingentia. *Ovarium* inferum, triloculare, placentis juxta septa hinc parietalibus, multiovulatis. *Stylus* cylindricus, trifidus v. tripartitus. *Bacca* pulposa, muricata, maturitate elastice irregulariter rupta, polysperma. *Semina* compressa, marginata, integumento baccato colorato, exsiccatione rugoso. Embryonis exalbuminosi *cotyledones* foliaceæ, plano-convexæ; *radicula* brevissima, centrifuga.—Herbæ *in Asia et America tropica indigenæ, glabriusculæ v. hirtæ;* foliis *alternis, cordatis, palmato-tri-quinquelobis;* cirrhis *simplicibus, elongatis;* pedunculis *axillaribus, filiformibus, unifloris, medio v. supra basim* bractea *foliacea instructis. Endl.*

MOMORDICA *mixta;* dioica, foliis cordatis, 3–5-lobo-palmatis, lobis sinuato-dentatis, petiolis glandulosis, floribus masculis solitariis magnis, pedunculo elongato bractea magna biloba infra florem, calycis lobis profundis ovatis nigro-striatis, corollæ petalis subrhombeo-ovatis venosis disco pubescentibus, 3 interioribus basi nigro-purpureis, fructu magno baccato ovalo-globoso rubro ubique muricato apice acuto.

MOMORDICA mixta. *Roxb. Fl. Ind. v.* 3. *p.* 709. *Wight et Arn. Fl. Penins. Ind. Or. p.* 349.

MOMORDICA Cochinchinensis. *Spreng. Syst. Veget. v.* 3. *p.* 14.

MURICIA Cochinchinensis. *Lour. Fl. Cochinchin. v.* 2. *p.* 732. *De Cand. Prodr. v.* 3. *p.* 318.

One of the tropical stoves at Kew has been rendered very attractive for some years past by the introduction of various Cucurbitaceous plants, trained under the rafters and the lights. It is a family of plants that have been too much neglected, for they present no small degree of beauty in their flowers, and their fruits are remarkable in their size or form or colour, and often their utility. Even in the open air many species will flower and

OCTOBER 1ST, 1859.

ripen their fruit in the open ground. The present plant is of recent introduction; the ripe, curiously compressed and embossed seeds, accompanied by a drawing, were sent to us from Moulmein by the Rev. C. S. P. Parish, and prove to be those of the *Momordica mixta* of Roxburgh; and this is considered identical with the *Muricia Cochinchinensis* of Loureiro: if so, it is execrably described, but is thence shown to be a native of China and Cochinchina, as of thickets about Calcutta. No figure has ever been published, yet the flowers are both large and handsome. Unfortunately our plants have produced only male flowers: these quite suffice to form a judgment of the species, especially in conjunction with an outline representation of the fruit, copied from the unpublished drawings of Roxburgh, in the museum of the India House. The plant flowered with us in July.

DESCR. *Stems* climbing, rather slender, angular. *Leaves* on long, grooved *petioles*, bearing conspicuous Peziza-shaped glands, varying in size, cordate, three- to five-palmato-lobate, the segments sinuato-dentate. Opposite the petioles are simple *tendrils*. *Peduncles* long, single-flowered, bearing a two-lobed pilose bract beneath the blossom. *Flower* (male) very large, full four inches in diameter. *Calyx* deeply cut into five, ovato-lanceolate lobes, striated with black. *Corolla* patenti-campanulate, of five, rotundato-trapezoid, acute *petals*, copiously veined, prominently so beneath, subundulate, pale straw-coloured externally, villous within on the disc: the three inner petals black-purple at the base. *Stamens* as in the genus, with very long sinuous *anther-cells*. *Fruit* large, oval-rotundate, red, muricated, acute, three-celled, containing many large *seeds*.

Our Plate exhibits a small portion of a male plant, with flowers and fruit,—*nat. size*. Fig. 1. The united stamens, crowning a large fleshy-lobed gland,—*magnified*.

5146

W Fitch del et lith

TAB. 5146.

RHODODENDRON NUTTALLII.

Mr. Nuttall's Rhododendron.

Nat. Ord. ERICACEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4336.)

RHODODENDRON *arboreum;* foliis maximis coriaceis ovalibus utrinque obtusis apiculatis subtus valde reticulatis fusco-squamosis, floribus maximis, corymbis 4–6-floris, lobis calycinis crassiusculis oblongo-ovalibus obtusis, corolla subcampanulata, staminibus, capsula 5-loculari calyce persistente ⅔-tecta, seminibus pallidis ovato-lanceolatis lato-marginatis, marginibus erosis. *Nutt.*

RHODODENDRON Nuttallii. *Booth, MS. Nutt. in Hook. Kew Gard. Misc. v.* 5. *p.* 355.

As *Victoria regia* is justly considered the Queen of Water-lilies, so the plant here represented may with equal justice be called the Prince of Rhododendrons. Yet our figure, though on a quarto size, does no justice to the plant itself, as it flowered in the Rhododendron House at Kew in May of the present year, and of which a drawing of the flowering portion, on imperial folio, is now before us. The height was nine feet. The principal branch was terminated by a corymb of ten or twelve flowers, the cluster measuring fifteen inches across: the corollas white, yellow in the centre, having measured six inches across, with a tinge of blush on the lobes; and the bud, just before expansion, is of the same length. The leaves have their charms too: the largest of them a foot long, including the short thick petiole, are much puckered on the superior surface, that is swollen or blistered in the areoles of the network, and these reflect a strong light. Nor does this include all the beauties of the plant. The corymb, long before it is developed, is enclosed within a scaly bud, if I may so call it, six inches long and nearly four inches in diameter, very much resembling a pine-cone or the flower-head of some South African Proteaceous plant; and the large deciduous scales are richly coloured too, almost white below, deep-rose in the centre, and tipped with green. Somewhat similar but smaller scale-buds envelope the infant foliage, which, too, is red when it

NOVEMBER 1ST, 1859.

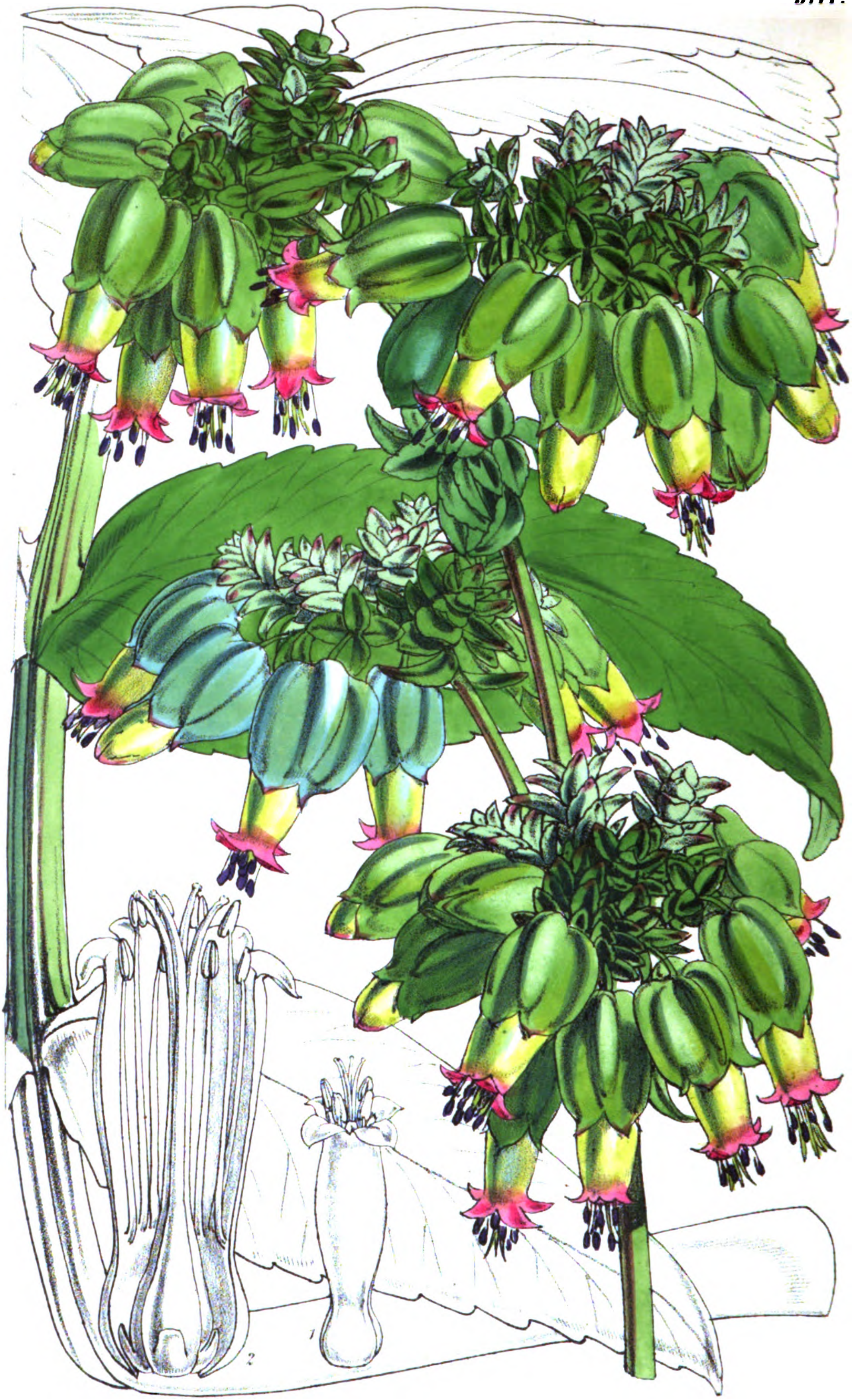
first bursts forth. Such a Rhododendron well merits the name of the late Mr. Nuttall, given to it by its discoverer, Mr. Booth; and we know that but a little before his lamented death, one of the last sources of pleasure he derived from the vegetable creation, which he had so long and so successfully studied, was the information of his namesake having for the first time flowered (at Kew), and the sight of the large drawing above referred to. The species was discovered by Mr. Booth, in the "Duphla Hills, at Meré Patao, about Seram's village, on the banks of the Papoo, Bhotan, growing in swampy grounds, among Yews and Oaks, sometimes epiphytically on trees, and at an elevation of from four to five thousand feet above the sea-level." We have seen a drawing of a specimen in the possession of Mr. Standish, which flowered on the Continent; and Lady Dorothy Nevill informs us she has a plant showing flower at this time (October, 1859).

Descr. Height thirty feet in its native country; when an epiphyte, it rises only from twelve to thirteen feet, and has then thick tuberous roots. *Leaves* from six inches to nearly a foot long, firm and coriaceous, acute, strongly reticulated, and blistered or bullate in the areoles, dark-green, much paler beneath, and there partially covered with numerous minute, circular, peltate, resinous *scales*. *Corymb* varying in size according to the number of flowers, which are from four to ten or twelve. *Calyx* an inch long, with large, obovate, greenish lobes, tinged with red. *Corolla* pure-white, fragrant, having a deep-yellow tinge at the base within; the lobes slightly tinged with rose-colour: *tube* broad-infundibuliform, with five cavities at the base; the lobes very large, broad, and obtuse. *Stamens* ten, curved upwards. *Ovary* ovato-rotundate, scaly, five- to ten-celled. *Style* shorter than the tube of the corolla. *Stigma* very large, peltate, with five lobes.

Fig. 1. Stamen. 2. Pistil. 3. Section of ovary. 4. Scales on the under side of the leaf:—*magnified*.

5147

5147.



W. Fitch, del et lith. Vincent Brooks, Imp.

TAB. 5147.

BRYOPHYLLUM PROLIFERUM.

Proliferous Bryophyllum.

Nat. Ord. CRASSULACEÆ.—OCTANDRIA MONOGYNIA.

Gen. Char. Calyx inflatus, ante florescentiam vesicularis, vix ad medium 4-fidus, lobis 4-valvatis. *Corolla* gamopetala, hypogyna; *tubo* longo, cylindraceo, basi obtuse tetragono; *lobis* 4, ovato-triangularibus, acutis. *Stamina* 8, tubi basi adnata. *Glandulæ* 4, oblongæ.—Suffrutices *carnosi, erecti, ramosi, glabri.* Folia *opposita, crassa, petiolata; alia impari-pinnata; nunc segmentis* 1–2-*jugis, interdum nullis, terminali maximo interdum solitario, pinnis ovatis oblongis crenatis, crenis* (*in* B. calycino) *punctum opacum in plantulam facile evolutam gerentibus.* Cymæ *paniculatæ, terminales, nunc proliferæ.* Flores *e flavo rubentes.* Calyx *fere Silene inflatæ. De Cand.*

BRYOPHYLLUM *proliferum;* elatum, caule tetragono, foliis pinnatis, rachi late alata, pinnis oppositis oblongo-lanceolatis sessilibus crenato-serratis, cymis terminalibus proliferis, floribus nutantibus, calyce tetragono, staminibus styloque exsertis.

BRYOPHYLLUM proliferum. *Bowie, MS.*

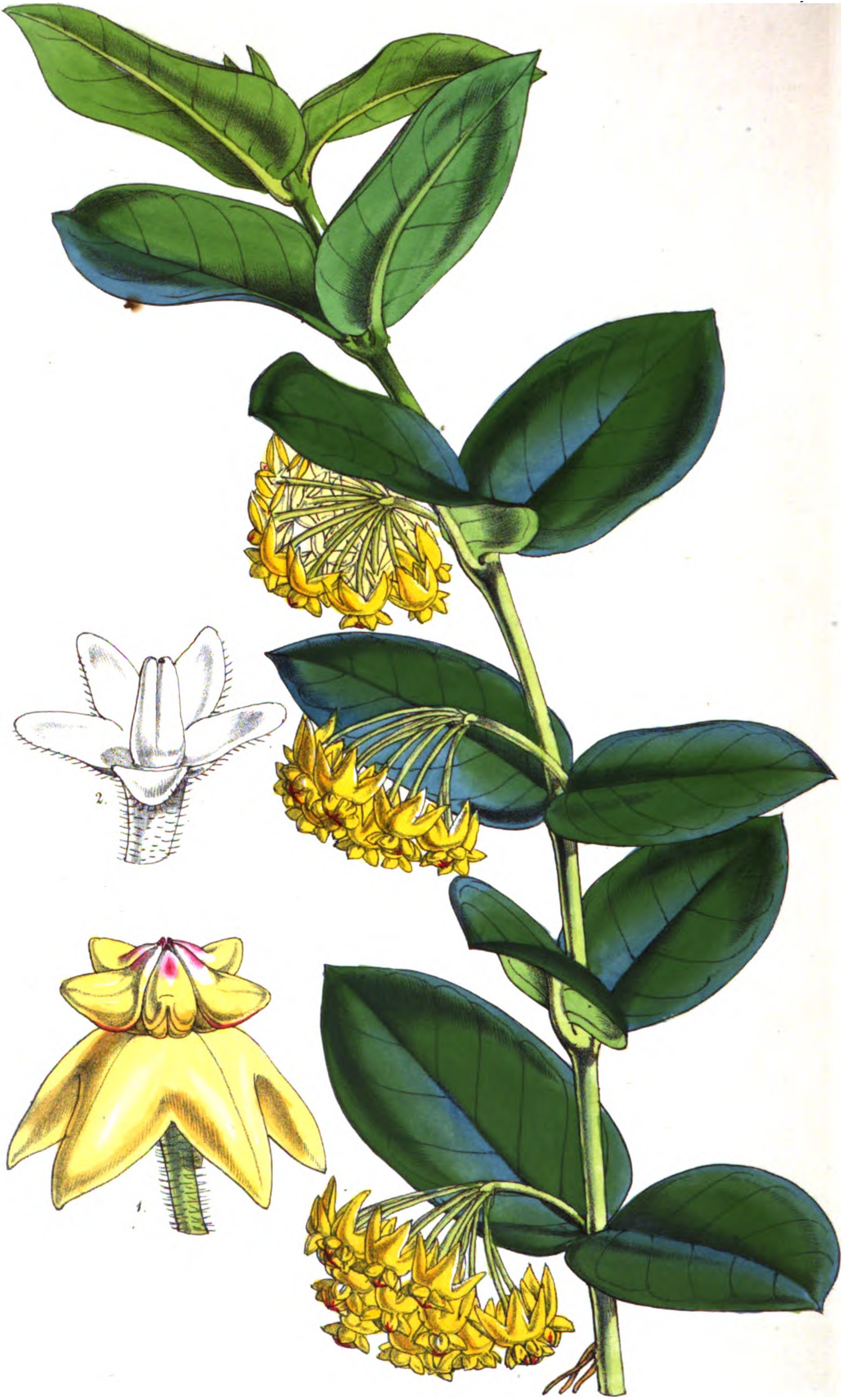
If the two genera, *Kalanchoe*, Adans., and *Bryophyllum*, Salisb., are to be retained, the present singular plant belongs to the latter genus, indicated by the monophyllous inflated calyx; and the species, though possessed of little beauty to recommend it, is nevertheless very peculiar, and deserving of place in a greenhouse to those who cultivate succulent plants. The stout, and at the base almost woody stems, attain, with us, a height of 10–12 feet, and when the copious corymbs of flowers appear, they are disfigured by the quantity of proliferous shoots springing from the bases of the pedicels; whereas, as is well known, a similar power of reproduction exists in the crenatures of the leaves of *Bryophyllum calycinum*, especially when the leaves come in contact with the soil. It is a native of Madagascar, but certainly neither under *Bryophyllum* nor under *Kalanchoe* is there anything described like it. There is a *Kalanchoe Delagoensis*, as its specific name implies, of Delagoa Bay, a good deal to the east of Natal, but all that is said of it is (Eckl. et Zeyh. Enum.

Pl. Afr. Austr. Extratropica, p. 305), "Exemplum et mutilum cel. Commodore Owen ad Delagoa Bay legit, et nobiscum communicavit." Our plants were raised from cuttings, sent from the Cape of Good Hope, and which he received as dried specimens for the herbarium, by Mr. Bowie. The species requires a warm and dry house for its successful cultivation.

DESCR. *Stem* ten to twelve feet high, moderately branched, rounded and terete, and almost woody below; the *branches* acutely tetragonal, very succulent, as is the whole plant. *Leaves* a foot to a foot and a half long, opposite, impari-pinnate, with about five opposite pairs of leaflets, which are sessile, subdecurrent, oblong-lanceolate, obtuse, crenate. *Rachis* very thick, deeply furrowed in front. *Inflorescence* terminal, in compound, pedunculated, proliferous *cymes:* sometimes all are proliferous, at other times the pedicels bear drooping flowers, one and a half inch long. *Calyx* large, inflated, bluntly tetragonal, with four, short, acute lobes. *Corolla* longer than the calyx, urceolato-cylindrical. *Limb* four-lobed. *Stamens* exserted, alternately longer. *Ovaria* with a blunt scale or gland at the base of each.

Fig. 1. Corolla and stamen. 2. The same, laid open:—*magnified.*

5148



W Fitch, del et lith

Vincent Brooks, Imp

Tab. 5148.

HOYA Cumingiana.

Mr. Cuming's Hoya.

Nat. Ord. Asclepiadeæ.—Pentandria Digynia.

Gen. Char. *Calyx* brevis, pentaphyllus, plus minusve altè quinquefida, laciniis planis v. reflexis, æstivatione valvata. *Corona staminea* 5-phylla; *foliolis* depressis patentibus, vel plus minusve gynostegio verticaliter adnatis carnosis angulo interiore in dentem antheræ incumbentem producto. *Gynostegium* breve. *Antheræ* membrana terminatæ. *Massæ pollinis* basi affixæ, oblongæ, compressæ, conniventes, sæpius margine pellucidæ. *Stigma* muticum, cum papilla media obtusa, v. subapiculatum. *Folliculi* læves v. appendiculis instructi, subpolypteri. *Semina* comosa.—Frutices *vel* suffrutices *Indici v. Moluccani, rarissime Africani, volubiles, scandentes aut decumbentes;* foliis *carnosis v. coriaceis v. membranaceis;* floribus *umbellatis;* umbellis *extra-axillaribus sæpius multifloris. Dcne. in De Cand. Prodr.*

Hoya *Cumingiana;* scandens glabra, ramis foliosis, foliis ovato-cordatis obtusis subcarnosis subtus venosis papillo-velutinis brevi-petiolatis, pedunculis plurifloris brevibus pedicellisque glabris, corollæ laciniis triangularibus acutis reflexis extrorsum glabris, introrsum papillosis, coronæ stamineæ foliolis ovatis supra convexis, marginibus revolutis, angulo interiore porrecto, stigmati apiculato incumbente. *Dcne. in De Cand.*

Hoya Cumingiana. *Dcne. in De Cand. Prodr. v.* 8. *p.* 636.

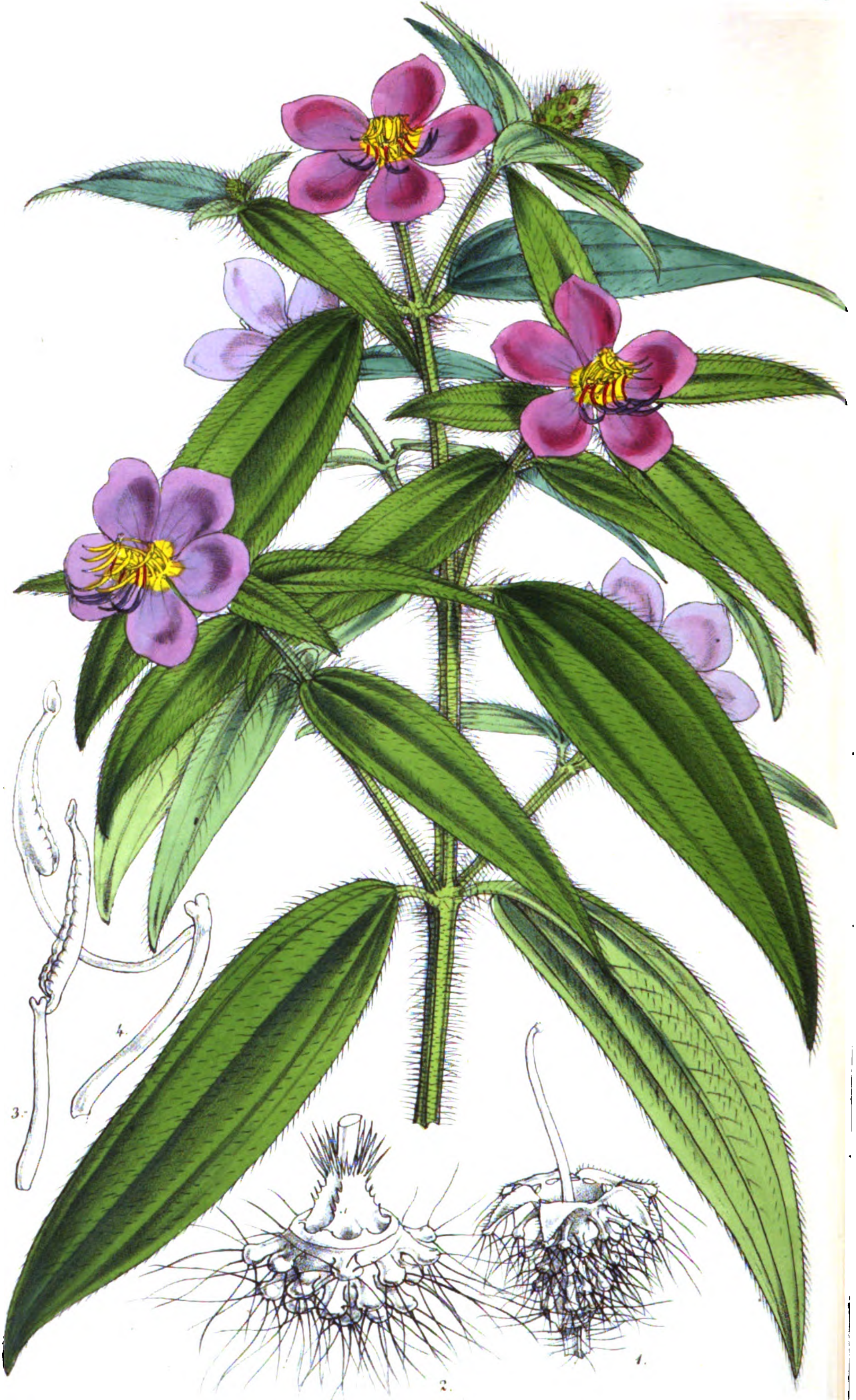
Flowering specimens of the pretty *Hoya* here figured were communicated to us by Mr. Lowe, of the Clapton Nursery, who received the plant from the Eastern Archipelago, gathered either in Singapore or in Borneo. It probably is a native of both those islands, and of the Malayan Islands generally, being unquestionably the *H. Cumingiana* of Decaisne in De Candolle's 'Prodromus,' from the Philippine Islands (n. 1480 of Mr. Cuming's distributed specimens). There are, indeed, some trifling discrepancies between the character in the 'Prodromus' and our specimens, almost wholly, however, depending on the more or less pubescent character, a circumstance extremely liable to vary.

Descr. A climber, with terete, green *branches*, slightly pubescent, as are the very short *petioles*, the *peduncles*, and *calyx*. *Leaves* coriaceous, elliptical-ovate, cordate at the base, suddenly acute at the point, very indistinctly penninerved. *Peduncles* a little supra-axillary, three-quarters of an inch long, bearing an *umbel* of *flowers*, which are drooping: *pedicels* an inch long, slender. *Calyx* quinquepartite, the *segments* oblong-ovate, obtuse. *Flowers* tawny-yellow. *Corolla* with its five obtuse lobes reflexed. *Staminal crown* purple in the centre.

Fig. 1. Flower. 2. Calyx and pistils:—*magnified*.

5149

5149



W Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5149.

DISSOTIS IRVINGIANA.

Dr. Irving's Dissotis.

Nat. Ord. MELASTOMACEÆ.—DECANDRIA MONOGYNIA.

Gen. Char. DISSOTIS, *Benth.* *Calyx* ovoideo-tubulosus, ovario mediantibus costis adnatus vel demum liber; *limbi* laciniæ 5, deciduæ, apice pluri-setosæ; *squamæ* palmatim setosæ, in tubum sparsæ vel subseriatim dispositæ. *Petala* 5, ampla. *Stamina* 10, *antheris* lineari-falcatis rostratis uniporosis 5 petalis opposita, connectivo longissimo filiformi postice in appendices 2 tenues producto, 5 laciniis calycinis opposita, antheris dimidio minoribus connectivo brevi sed pariter filiformi et bicalcarato. *Ovarium* disco setoso coronatum, 5-loculare. *Stylus* æqualis v. superne leviter incrassatus, apice truncato-dilatatus et stigmatosus. *Capsula* calyce inclusa, fere libera, 5-locularis, *valvulis* 5 loculicide dehiscens. *Semina* numerosa, cochleata.—Herbæ *Africanæ, erectæ, habitu* Chætogastris Americanis *approximantes*. *Benth. in Niger Flora, p.* 346.

DISSOTIS *Irvingiana;* ubique pilis patentibus hispidissima herbacea copiose ramosa, ramis tetragonis, foliis elongato-lanceolatis brevi-petiolatis, calycis tubi tuberculis elongatis clavatis.

From tropical Western Africa, whence I received specimens from the late Dr. Irving, gathered in Abeokuta, and, more recently, both seeds and specimens from the late Mr. Barter, while Botanist to the Niger Expedition. Both these travellers have since fallen a sacrifice to the climate; the former more especially in the cause of humanity, the latter to the love of science and the arduous duties under his energetic friend, and most successful commander of the Expedition, Dr. Baikie. During upwards of two years' exposure to the climate, Mr. Barter enjoyed excellent health, under the most perilous and trying circumstances, and it is only recently that the news of his death has reached England, from a rapid attack of dysentery, at Rabba, and while surrounded with comparative comforts:—the first death that has occurred (such has been the care and attention devoted to health) among Dr. Baikie's small party.*

---

* Our readers will be glad to learn that on the official news of the death of Mr. Barter having reached the Foreign Office, the First Secretary of State of that Department, Lord John Russell, immediately gave instruction for a successor

NOVEMBER 1ST, 1859.

The genus *Dissotis,* chiefly differing from *Osbeckia* by the very long connectivum and dissimilar anthers, was established by Mr. Bentham on a Sierra Leone plant, the *Osbeckia grandiflora,* Sm., and the *Osbeckia Senegambiensis?* of Guill. and Perott., of which a specimen in my herbarium from Heudelot, Mr. Bentham observes, is apparently the same. Our present species is very different from that in the form of the leaves and of the scales, or tubercles (as they may rather be called in this instance), of the tube of the calyx; the whole plant, too, is much more villous, and the root is in no way tuberous.

Descr. *Root* subrepent, perennial?, sending out copious black *fibres. Stem* one to two feet and more high, herbaceous, clothed as is the foliage, with long, villous, spreading hairs, in the native dried specimens having a purplish cast upon them, obtusely four-angular: *branches* copious, more acutely four-angled. *Leaves* two and a half to three and a half inches long, shortly petiolate, lanceolate, three- to five-nerved, somewhat rigid, quite entire. *Flowers* solitary, terminal, smaller than in *Dissotis grandiflora. Petals* purple-rose. *Calyx* short, urceolate, clothed with tuberculiform, clavate, spreading scales, each terminated with a pencil of long purplish hairs or setæ; *limb* of five, spreading segments, each with a gland at the point. *Disc* of the ovary conical, five-angled, with a few hairs on the angles, and a long tuft of hairs surrounding the style. *Stamens* ten, alternately small, the lesser ones with a very short *connectivum,* the larger ones with a very long curved one, bearing the large, purple, falcate *anther,* which opens with one pore at its summit.

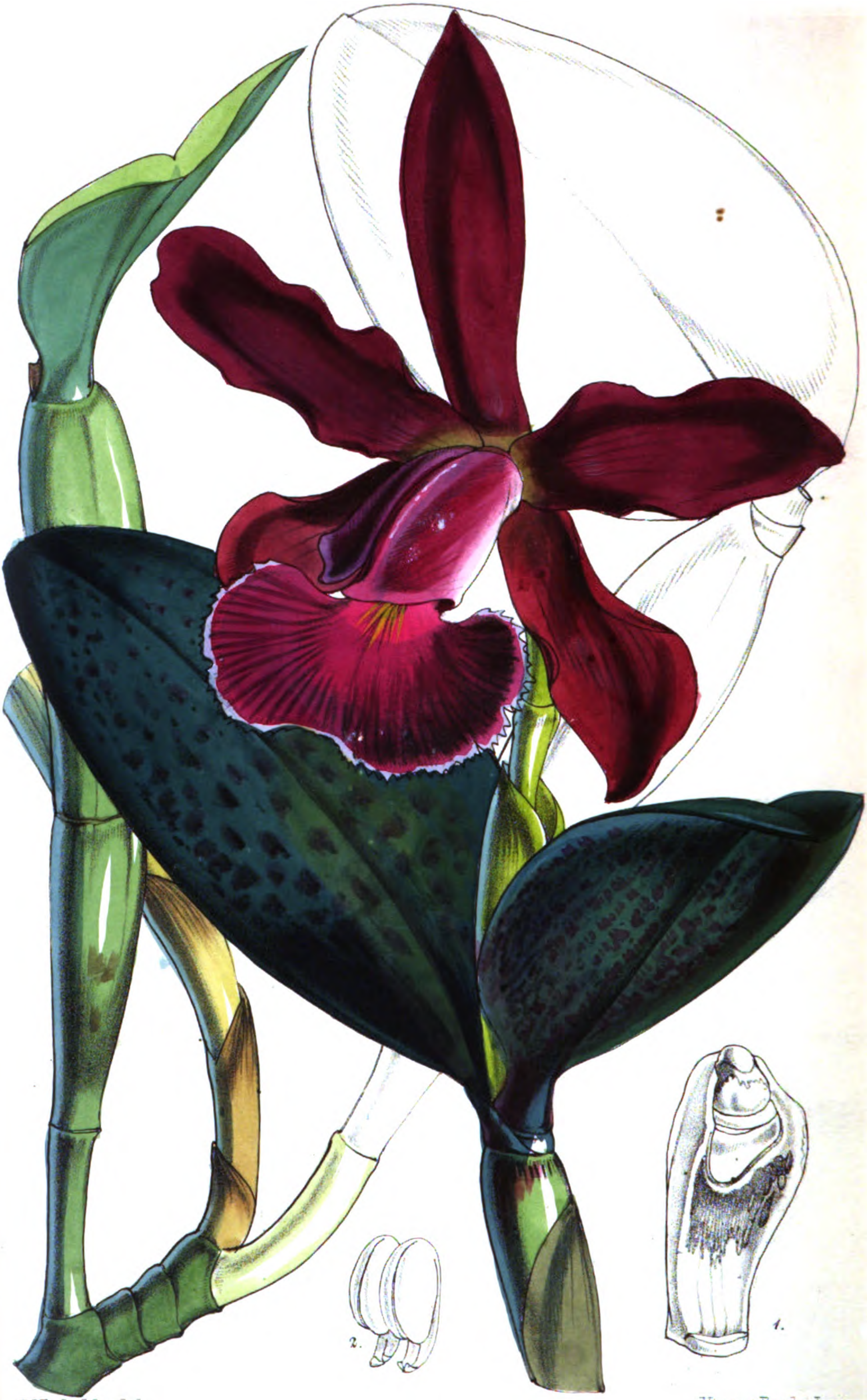
Fig. 1. Calyx and pistil. 2. Lower part of the tube of the calyx (including the ovary) and base of the style. 3, 4. The two kinds of stamens:—*magnified.*

---

to be appointed, and Mr. Gustave Mann, one of the very intelligent Hanoverian gardeners of the Royal Gardens of Kew, will sail on the 24th of this month for Lagos, where preparations are making for his ascent of the Quorra to Rabba, where Dr. Baikie awaits his arrival.

5150

5150.



W Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5150.

CATTLEYA SCHILLERIANA; var. *concolor*.

Schillerian Cattleya; whole-coloured var.

Nat. Ord. ORCHIDEÆ.—GYNANDRIA MONANDRIA.

Gen. Char. (*Vide supra*, TAB. 4700.)

CATTLEYA *Schilleriana;* pseudobulbis elongatis, foliis binis ellipticis carnosis, crassis atro-purpureo maculatis, flore solitario vivide purpureo-rubro petalis undulatis sepalisque immaculatis, labelli lobo terminali maximo reniformi patente margine ciliato albo.

CATTLEYA Schilleriana. *Reichenb. in Berl. Allg. Gartenzeit. Oct.* 17, 1847.

Var. *β*. labello toto purpureo (lobi terminalis margine excepto).

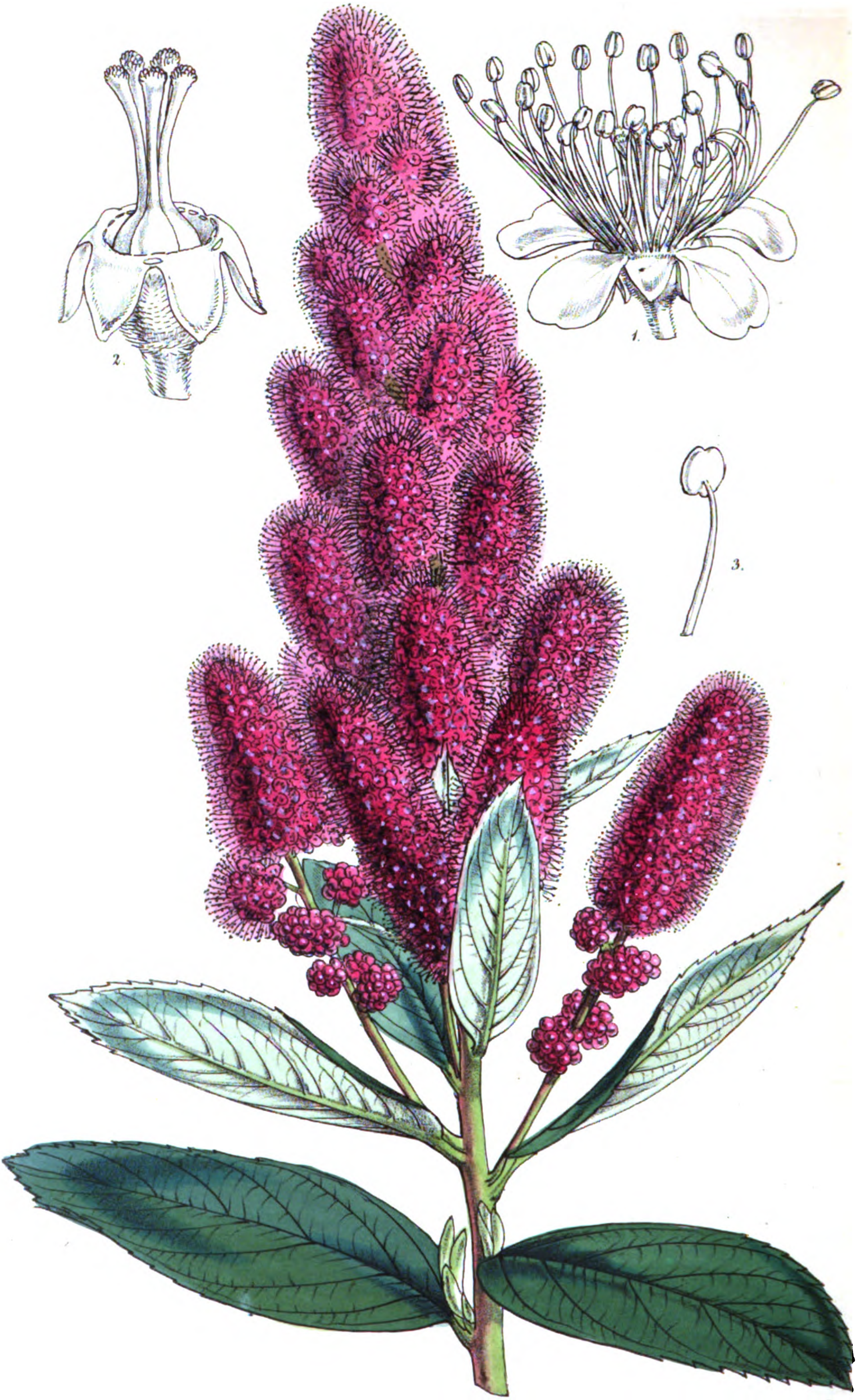
This really splendid *Cattleya* was communicated to us in September, 1859, by Messrs. Backhouse and Son, of the York Nurseries, having been imported direct from Brazil. Dr. Lindley pronounces it to be the *Cattleya Schilleriana*, Reichenbach, of which the author says, "pseudobulbo *C. Aclandiæ*, flore *C. guttatæ*." To us it seems very distinct from both, and much handsomer than either. In the original species the lip is white, with purple veins.

DESCR. *Pseudobulb* elongated, clavate, branched. *Flowering-branch* with two unequally sized, thick, fleshy, elliptical *leaves*, dark-green above, a little paler beneath, sprinkled with black-purple spots on both sides, the larger spots on the upper side. From a sheathing, compressed, membranaceous *bract*, between the two leaves, consequently terminal, arises a *peduncle*, bearing a solitary, large, rich red-purple *flower*. *Sepals* spreading, oblong-lanceolate, nearly straight; *petals* also spreading, nearly of the same shape, waved. *Lip* large, deflexed, three-lobed, lateral lobes involute, enclosing the column, middle lobe very large, spreading, reniform, marked with radiating *veins*, the margin fimbriato-ciliate and white. *Column* rather short, nearly white, dashed with purple.

Fig. 1. Column and anther. 2. Pollen-masses:—*magnified*.

NOVEMBER 1ST, 1859.

5151



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5151.

SPIRÆA DOUGLASII.

Douglas's Spiræa.

Nat. Ord. ROSACEÆ.—ICOSANDRIA DI-PENTAGYNIA.

Gen. Char. (*Vide supra*, TAB. 4795.)

SPIRÆA *Douglasii;* frutex erectus, ramulis canis, foliis elliptico- vel lineari-oblongis obtusis apices versus grosse serratis subtus cano-tomentosis, panicula, oblonga v. pyramidata, calyce tomentoso intus glabro, lobis reflexis, disco eglanduloso, ovariis glaberrimis.

SPIRÆA Douglasii. *Hook. Flor. Bor. Am. v.* 1. *p.* 172. *Paxton, Mag. of Bot. cum ic. Flore des Serres, v.* 2. *t.* 2.

This very beautiful shrub was discovered by Douglas, in British Columbia, and is common on the banks of the Oregon and straits of St. Juan de Fuca; it has also been found in California by Lobb, n. 341, under which number another species has been sent by the same collector, of which we shall give a figure shortly. It was first raised at the Royal Botanic Gardens of Glasgow, from Douglas's seeds, and since from those of Lobb. It flowered this year in the Royal Gardens, Kew, and in that of Mr. Noble, of Bagshot, to whom we are indebted for the specimen here figured, together with those of *S. Nobleana* and *S. callosa,* which will shortly be figured, and under which will be found some further remarks upon this.

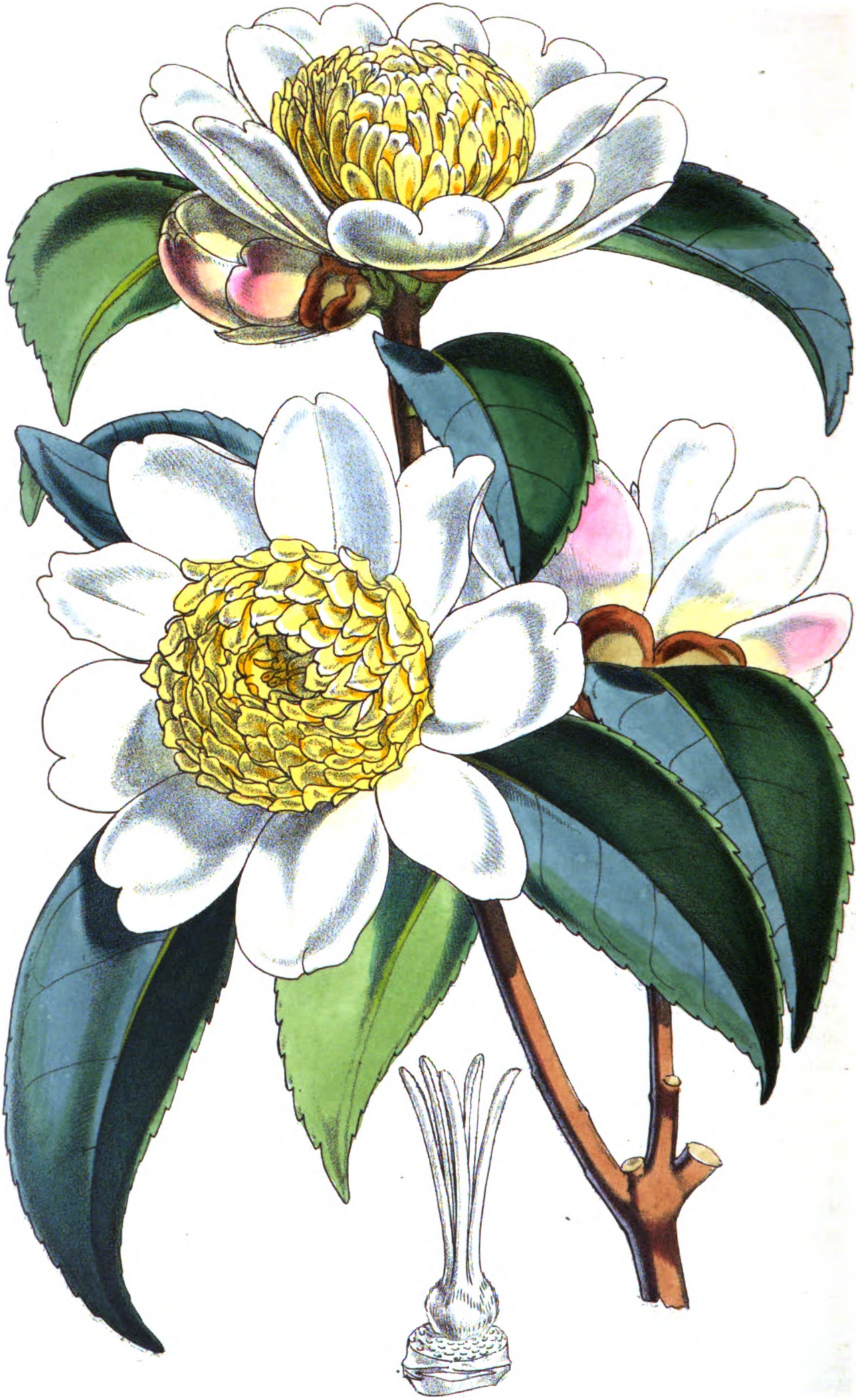
DESCR. A handsome *shrub,* four to six feet high, with reddish, erect *branches;* the young ones covered with hoary pubescence. *Leaves* three to five inches long, rather variable in shape, linear-oblong or elliptic, blunt, rarely acute, serrated beyond the middle, the serratures tipped with small glands, glabrous or puberulous above, densely covered with whitish tomentum beneath. *Inflorescence* a dense, terminal, erect thyrsus of deep-pinkish flowers. *Peduncle, pedicels,* and *calyx* densely pubescent. *Calyx-lobes* reflexed. *Disc* not furnished with glands or thickened; *tube* glabrous inside. *Stamens* very long. *Ovaries* glabrous. *J. D. H.*

Fig. 1. Flower. 2. Calyx and ovaries. 3. Stamen:—*magnified.*

DECEMBER 1ST, 1859.

5152

5152.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5152.

CAMELLIA SASANQUA; var. *anemoniflora.*

Sasanqua; Anemone-flowered var.

Nat. Ord. CAMELLIACEÆ.—MONADELPHIA POLYANDRIA.

Gen. Char. (*Vide supra*, TAB. 2745.)

CAMELLIA *Sasanqua;* fruticosa v. arborescens, ramulis petiolisque puberulis, foliis ellipticis v. ovato-lanceolatis acutis subtus subaveniis, floribus inodoris, petalis (albis) obcordato-emarginatis vel bilobis, staminibus glabris, ovario lanato, stylis connatis, capsula pubescente. *Seem.*

CAMELLIA Sasanqua. *Thunb. Fl. Jap. p.* 273. *t.* 30. *Seem. in Trans. of Linn. Soc. v.* 23. *p.* 343 (*where copious synonyms are given*).

β. var. flore semipleno. *Lind. Bot. Reg.* 1815, *t.* 12; 1827, *t.* 1091. *Seem. l.c. p.* 344, *not Sims in Bot. Mag. t.* 2080, *which according to Seemann is* Thea maliflora, *Seem. l.c.* (Camellia rosæflora, *Hook. Bot. Mag. t.* 5044).

γ. anemoniflora; foliis ovato-lanceolatis longe acuminatis, floribus plenis, petalis exterioribus (albis) obovato-oblongis bilobis, staminibus fere omnibus in petalos spathulatos (flavos) exterioribus multo brevioribus mutatis, stylis (rarissime abortu 4) liberis v. connatis. *Seem. l.c. p.* 251. (TAB. NOSTR. 5152.)

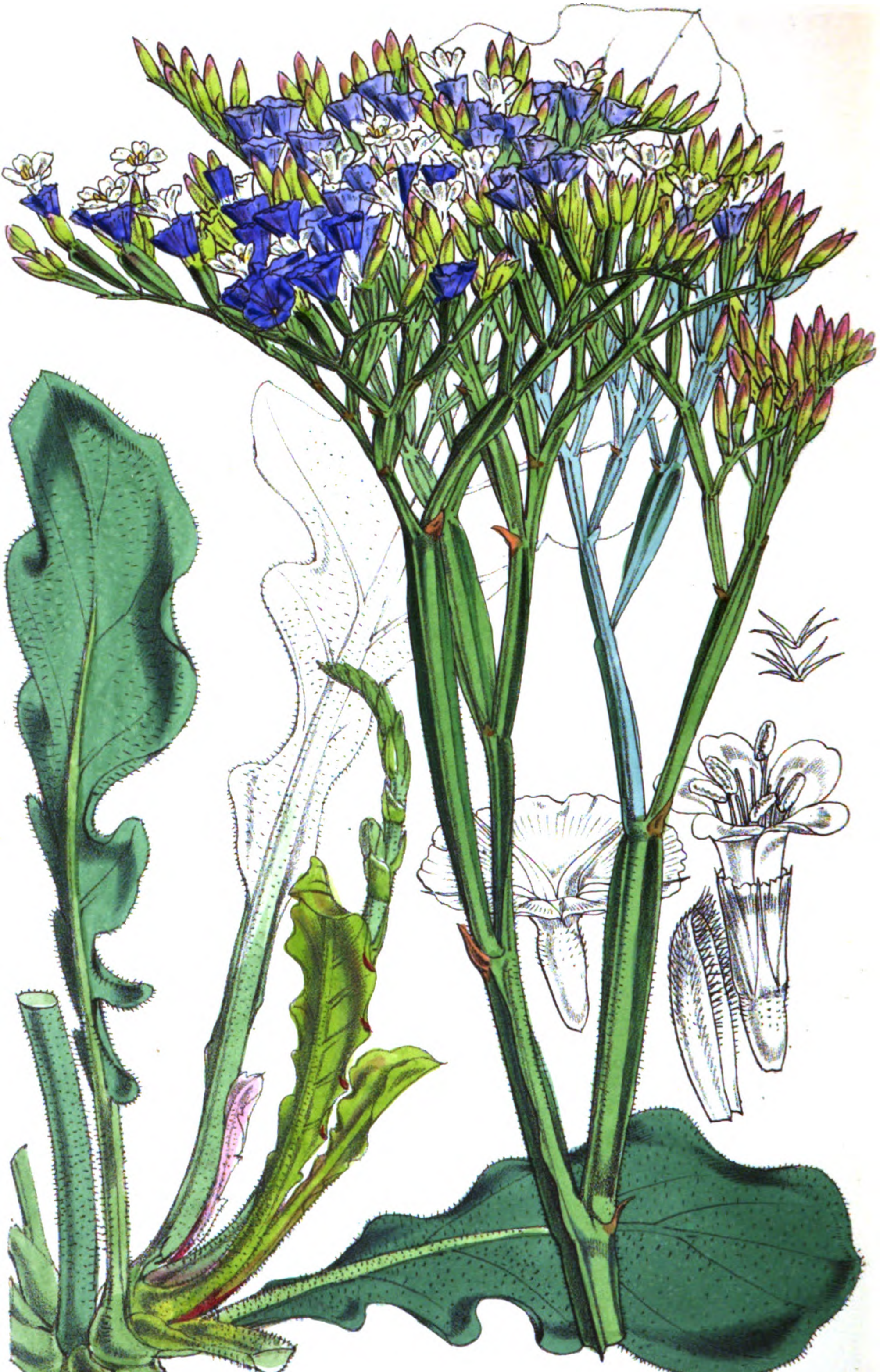
YELLOW Camellia. *Fortune, Journ. to Tea Country, p.* 339. *Gard. Chron. for* 1859, *p.* 807.

This is one of the many interesting plants which our Gardens owe to Mr. Fortune's successful voyages to China. That active traveller considered it to be a variety of the Waratah Camellia group; but Dr. Seemann, with more justice, considers it to be a variety of *Camellia Sasanqua*. "Hitherto," writes Dr. Seemann, in an Addendum to his elaborate synopsis of the genera and species of *Camellia* and *Thea*, "the Waratah form of *Camellia* was only known to occur in *C. Japonica;* and the yellow colour is certainly quite a new feature in this genus, deserving the greatest attention of Horticulturists. That *C. Sasanqua* has a tendency to assume a yellow tinge is evident even from the single-flowered state, as will be seen in the figure in the Bot. Reg. t. 942, where the outer series of stamens displays the primrose-colour peculiar to the *Yellow Camellia.*"

Fig. 1. Pistil,—*magnified.*

DECEMBER 1ST, 1859.

5153



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5153.

STATICE BOURGIÆI.

Bourgeau's Statice.

Nat. Ord. PLUMBAGINEÆ.—PENTANDRIA PENTAGYNIA.

Gen. Char. (*Vide supra*, TAB. 3776.)

STATICE (Pteroclados) *Bourgiæi;* basi suffrutescens, foliis amplis petiolatis stellato-puberulis oblongis basi attenuata subsinuatis vel sæpe lyratis, lobo terminali ovato obtuso mucronato basi sæpe sublobato lateralibus 1–3 auriculæformibus rotundatis parvis irregularibus sæpe cum terminali confluentibus, scapo compresso adpressiuscule piloso superne corymboso-paniculato, ramis ancipitibus vel angustissime alatis, ramulis angulatis, spiculis 1–2-floris ad ramulorum extremitatem 2–3-fasciculatis, bracteis inferioribus rubello-membranaceis puberulis oblongis nervo dorsali excurrente longe mucronato-aristatis, interiori subcoriacea rubella duplo longiori puberula ciliata apice truncata nervo carinali excurrente sæpe mucronulata, calycis tubo glabro, limbo eroso truncato nervis excurrentibus 5-aristato. *Boiss.*

STATICE Bourgiæi. *Webb in Bourgeau Plantes Can. Exsicc. n.* 564. *Boissier in De Cand. Prodr. v.* 12. *p.* 638.

This is one of many specimens of rare and curious species of plants with which the excellent Bourgeau, prince of botanical collectors, has enriched the herbaria of scientific botanists. It was found by him on his last voyage to that interesting group of islands at Lancerotte. Seeds which we likewise received from him have been raised, and our figure is taken from one of the plants so reared, in a cool greenhouse, in August, 1859. M. Boissier places it next to *S. puberula*, Webb (see Bot. Mag. Tab. 3701): the leaves indeed appear to be very distinct, but they are described as being very variable; the branches are more winged: but I do not find the difference in the size of the flowers mentioned by Boissier.

Of the genus *Statice* as now cut down in the Prodromus of De Candolle (excluding *Acantholimon*, Boiss., 42 species, *Goniolimon*, Boiss., 7 species, *Armeria*, Willd., 52 species, and some minor genera, all formerly incorporated in *Statice*), there are now 110 species enumerated by Boissier. It is true, however, the

DECEMBER 1ST, 1859.

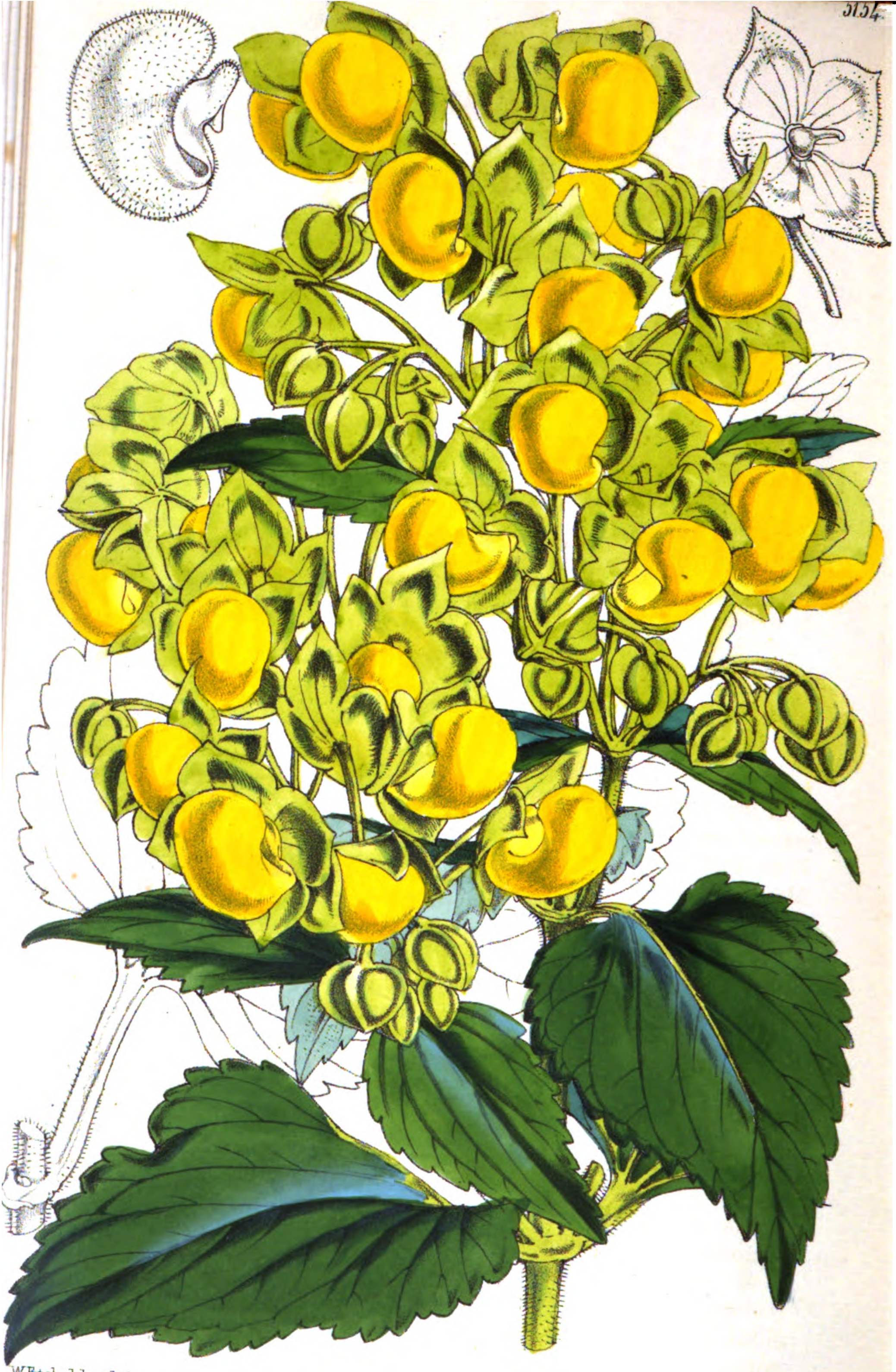
distinctions are very finely drawn of many of them, and the permanency of some may be questioned.

DESCR. This is in many respects so closely allied to the *S. puberula,* Webb, above noticed, that we may sum the distinguishing characters in few words. *S. Bourgiæi* has the stem and branches more winged, and leaves so waved and lobed in the lower half as almost to constitute a lyrate leaf.

Fig. 1. Stellate hairs of the leaf. 2. Flower. 3. Persistent calyx, enclosing the fruit. 4. Bract:—*magnified.*

5154

5154



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5154.

CALCEOLARIA FLEXUOSA.

Flexuose Calceolaria.

Nat. Ord. SCROPHULARINEÆ.—DIANDRIA MONOGYNIA.

Gen. Char. (*Vide supra*, TAB. 4929.)

CALCEOLARIA *flexuosa;* fruticosa villosa, ramis flexuosis, foliis ovatis crenatis, basi cordatis supra asperis subtus venosis, panicula corymbosa foliosa, calycis villosi laciniis obtusiusculis corollæ (sub-)concoloris, labio superiore calyce breviore, inferiore obovato-orbiculato patente basi longiuscule contracto ad medium aperto. *Benth.*

CALCEOLARIA flexuosa. *Ruiz et Pav. Fl. Chil. et Peruv. v.* 1. *p.* 17. *t.* 25. *f. a.*

A fine and rare species of this now extensive genus, and till recently scarcely known, except by the figure and description of Ruiz and Pavon, who found it in rocky places of Canta, Peru. Messrs. Veitch and Sons, of Exeter and Chelsea, have the credit of raising it from seeds sent by Mr. William Lobb from Peru, and it promises well, from the very dense massy panicles and large flowers, to be well calculated for a bedding-out plant. The calyces, as well as the flowers, partake largely of the yellow colour, and these calyces are larger in proportion than the corollas. It flowers through the summer months.

DESCR. *Stems* herbaceous, suffruticose at the base, branched, *branches* rather weak and flexuose. Ruiz and Pavon say the plant attains the height of two to three feet. *Leaves* two to three inches long, cordate-ovate, petiolate, waved, thin, deeply crenato-serrate at the margin, penninerved, *veins* close-placed, running almost parallel with the costa. *Panicle* large, rather lax, very compound, and bearing most copious *flowers:* the *corollas* a full, clear yellow; the *calyces* primrose-green. In the state of bud (before expansion) these calyces have a short pyramidal form, four-sided, and compressed at the angles, so as at first sight to appear winged: when expanded they are very large (in proportion to

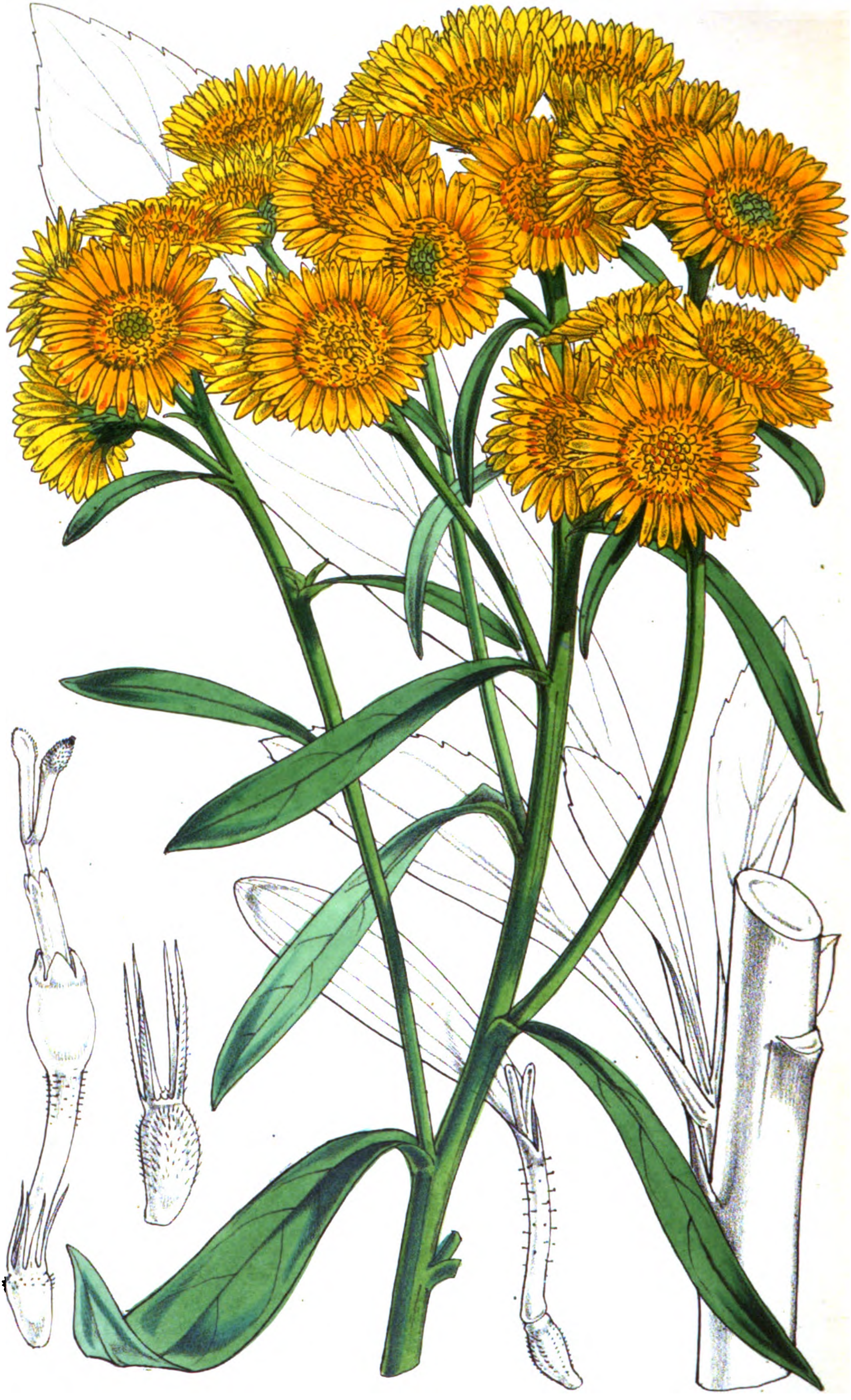
DECEMBER 1ST, 1859.

the corolla), of four, nearly equal, almost cordate, broad, spreading *sepals,* slightly downy externally. *Corolla* full yellow; upper lip very small and paler yellow, partly closing the aperture of the inferior lip, which is large, subglobose, and slightly downy. *Stamens* two, and, as well as the short *style,* quite enclosed by the corolla.

Fig. 1. Calyx. 2. Corolla:—*slightly magnified.*

5155

5155.



W Fitch, del et lith.

Vincent Brooks, Imp.

TAB. 5155.

GUTIERREZIA GYMNOSPERMOIDES.

Gymnosperma-like Gutierrezia.

Nat. Ord. COMPOSITÆ.—SYNGENESIA SUPERFLUA.

Gen. Char. *Capitula* 8–40-flora; *flosculi radii* ligulati, pistillati, fertiles, serie simplici: *disci* tubulosi, perfecti, et fertiles. *Involucrum* campanulatum vel turbinatum: *squamæ* appressæ, arcte imbricatæ, rigidæ, apicibus nunc subfoliaceis viridibus. *Receptaculum* nudum. *Corollæ ligulæ* oblongæ vel ovales, tubo brevi: *disci* infundibuliformes, 5-dentatæ, dentibus brevibus recurvis. *Styli rami* disci lineares, elongati, obtusi, villosi glabri, lineæ stigmaticæ ad apicem continui. *Achenia* subobconica, teretia, pubescentia vel sericea. *Pappus* e squamis plurimis paleaceis linearibus oblongisve, plerumque serie duplici, persistens; *radii* obsoletus vel nullus.—Plantæ *perennes, Americanæ, glabræ, subglutinosæ, et balsamicæ;* foliis *linearibus lanceolatisve, integerrimis, sæpius impresso-punctatis, alternis.* Capitula *solitaria vel aggregata* (*nunc subterna*), *in paniculis corymbisve terminalibus.* Flores *flavi. Torr. et Gray.*

GUTIERREZIA? (Hemiachyris) *gymnospermoides;* caule herbaceo valido subsimplici, foliis lanceolatis vel oblongo-lanceolatis inferne attenuatis apicem versus sæpius denticulatis mucronato-acutis, glutinosis penninerviis, capitulis confertissime corymbosis hemisphæricis fere omnibus pedicellatis, involucri squamis linearibus acutis, receptaculo planiusculo, ligulis 25–30 angustis discum vix superantibus, fl. disci 40–60, acheniis radii glaberrimis calvis, disci minute hirtellis pappo coroniformi dentato lacero et in fl. centralibus setoso-paleaceo superatis. *A. Gray.*

GUTIERREZIA gymnospermoides. *Asa Gray, Plantæ Wright. Texano-Neo-Mex. part* 2. *p.* 79.

This is an inhabitant of San Pedro, Sonora, New Mexico, where it was detected by Mr. Charles Wright, whose fine collections from that region are worked up into two valuable memoirs, under the title above quoted, by Dr. Asa Gray. Seeds were sent to us by Dr. Gray, and the plant proved hardy, flowering in September. It has too much of the aspect of our common *Fleabanes* ever to become a general favourite. The species of the genus are chiefly inhabitants of South America, but extending into Mexico and California, and along the valley of the Mississippi.

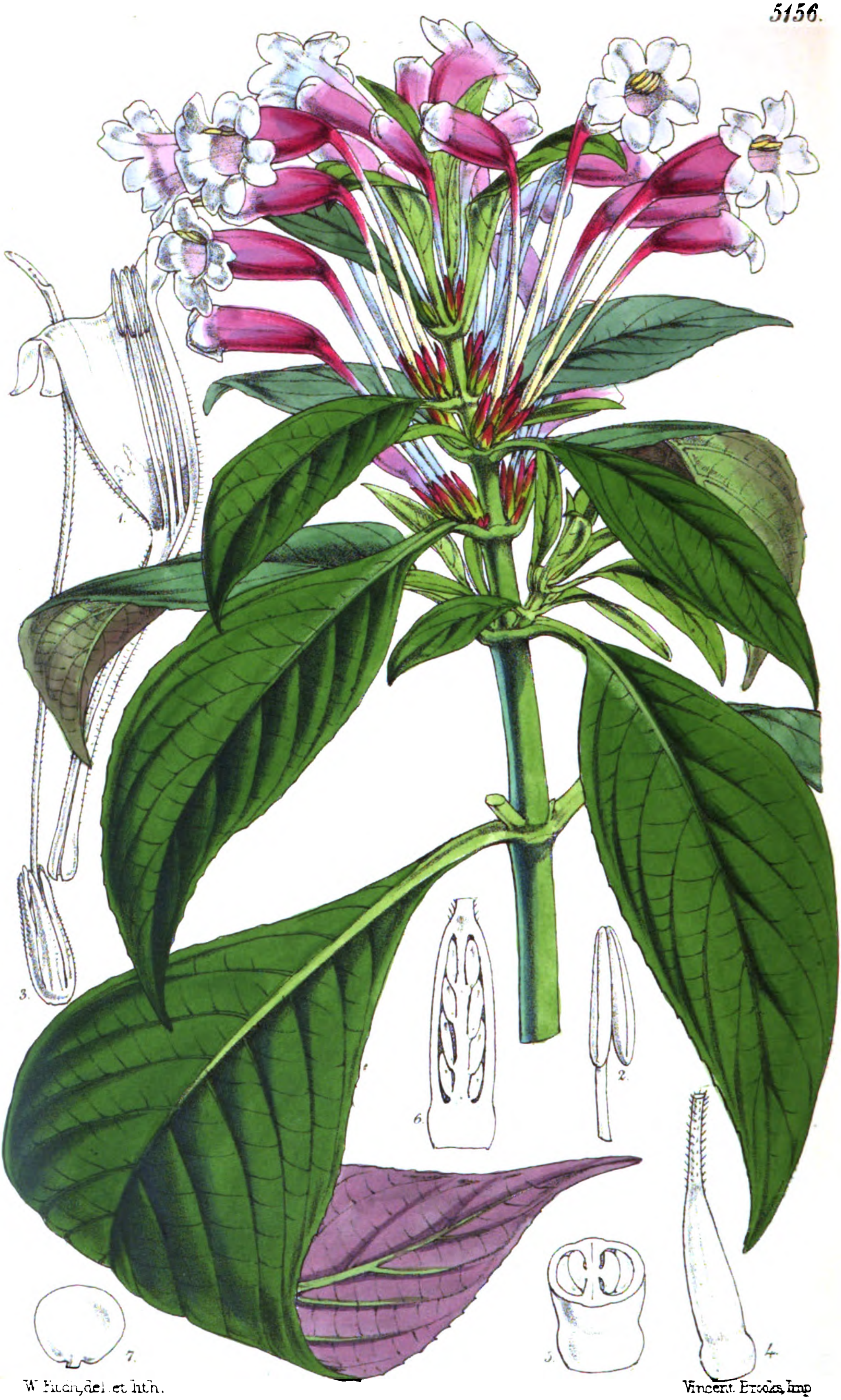
DECEMBER 1ST, 1859.

DESCR. *Stem* herbaceous, two to four feet, slightly branched except above, where the *flowering branches*, as well as the flowers themselves, are corymbose. *Leaves* three to six inches long, lanceolate, linear and small above, the lower ones subspathulate and serrated towards the point, the rest entire. *Flowers* about an inch across. Scales of the involucres subsquarrose. *Florets* all yellow; those of the disc tubular-clavate, perfect, their *achenium* obovate, downy, crowned with four to six subulate, membranaceous *scales*, as long as the achenium. *Florets of the ray* ligulate; their *achenium* naked.

Fig. 1. Floret of the ray. 2. Floret of the disc. 3. Achenium of ditto:—*magnified.*

5156

5156.



W. Fitch, del. et lith.

Vincent Brooks, Imp.

TAB. 5156.

DIPTERACANTHUS? HERBSTII.

Mr. Herbst's Dipteracanthus.

Nat. Ord. ACANTHACEÆ.—DIDYNAMIA ANGIOSPERMIA.

Gen. Char. (*Vide supra*, TAB. 4494.)

DIPTERACANTHUS? *Herbstii;* frutescens, ramis teretibus, scaberulis, foliis lanceolatis acuminatis in petiolum angustatis obscure sinuato-serratis, nervis crebris, inflorescentia subterminali, floribus axillis foliorum 3–5-fasciculatis sessilibus, bracteis setaceis calyce æquilongis, calyce subæqualiter ad basin fere 5-partito lobis subulatis, corolla puberula, tubo gracillimo dein ampliato subcampanulato lobis 5 brevibus æqualibus recurvis bilobis, staminibus inclusis, filamentis basi per paria cohærentibus, antheris linearibus 2-locularibus, ovario sub-12-ovulato.

A very elegant plant, received from Messrs. Herbst and Rossiter, of Rio, and sent as a native of Brazil, flowered in the Royal Gardens early in September of the present year, and continued in bloom during the two succeeding months. In the present unsettled condition of the genera of *Acanthaceæ* we have been obliged to refer it provisionally to the large genus *Dipteracanthus,* as the only one with the characters of which it at all agrees; at the same time we have little doubt but that it is congeneric or very closely allied to the *Stephanophysum Baikiei* of tropical Africa (TAB. NOSTR. 5111), a plant which, though agreeing in many respects with the technical characters of that genus, differs (according to Pohl's figures of the *Stephanophysum*) conspicuously in habit, in the stigma not being equally bilamellate, and in the whole form and structure of the capsule, and in wanting the bifurcate retinaculum of the seed. It is a most desirable new stove-plant.

DESCR. An erect shrub or half-shrubby plant, of which our individual, now eighteen months old, is about a yard high, sparingly branched, the branches bearing a terminal inflorescence, consisting of numerous axillary fascicles of sessile flowers, which are conspicuous for the very long slender tube of the corolla.

DECEMBER 1ST, 1859.

Stem and branches stout, terete, green, sparingly covered with small asperities. *Leaves* deep dull-green, the upper of a dull pale-purple beneath, five to seven inches long, by one and three quarters to two inches broad, rather thick in texture, lanceolate, acuminate, obscurely sinuate, serrate, with numerous stout arching veins, glabrous, or with a few short scattered transparent hairs, which also appear on the inflorescence and calyx. *Flowers* three to five together, fully three inches long, minutely pubescent. *Calyx* red-purple, three-quarters of an inch long, five-cleft nearly to the base, with two subulate bracts of equal length with itself. *Corolla* pale rose-purple, abruptly bent, almost geniculate where the slender tube suddenly enlarges; limb of five, short, equal, white, patent or recurved, bilobed divisions. *Stamens* five, included. *Ovary* with about twelve ovules. *J.D.H.*

Fig. 1. Corolla, laid open. 2. Stamens. 3. Calyx and pistil. 4. Ovary. 5. Transverse, and 6, vertical section of ovary. 7. Ovule:—*all magnified.*

INDEX,

In which the English Names of the Plants contained in the Fifteenth Volume of the Third Series (or Eighty-fifth Volume of the Work) are alphabetically arranged.

Plate.
5138 Aerides, Dr. Wight's.
5131 Æschynanthus, heart-leaved.
5097 Agave, Jacquin's.
5122 ——— spotted-leaved dwarf.
5113 Angræcum, sesquipedalian.
5139 Areca or Betel-nut.
5107 Begonia, yellow-flowered; Lapis-Lazuli var.
5102 ——— yellow-flowered; variegated-leaved var.
5101 ——— royal.
5114 Bilbergia, long-calyxed.
5133 Brachychiton, Mr. Bidwill's.
5147 Bryophyllum, proliferous.
5154 Calceolaria, flexuose.
5150 Cattleya, Schillerian; whole-coloured var.
5127 Ceanothus, Mr. Veitch's.
5095 Chrysanthemum, keeled; painted var.
5118 Columnea, climbing,
5126 Cymbidium, the ivory.
5099 Dasylirium, Hartweg's.
5130 Dendrobium, white-and-sanguine.
5106 Dipteracanthus, subglabrous.
5156 ——————— Mr. Herbst's.
5149 Dissotis, Dr. Irving's.
5103 Epigynium, white-fruited.
5141 Evelyna, Aublet's.
5112 Flax, pubescent; Sibthorpe's var.
5137 Forget-me-not, Antarctic.
5096 Fuchsia, slightly-branched.
5115 Gesneria, purple-flowered.
5119 Goldfussia, Dr. Thomson's.
5155 Gutierrezia, Gymnosperma-like.
5123 Gynura, two-coloured.
5135 Hand-plant, Mexican.
5093 Hemp, terete-leaved bowstring.

Plate.
5098 Hibiscus, rayed; purple-flowered var.
5117 Horse-chestnut, Indian.
5110 Howardia, Caracas.
5148 Hoya, Mr. Cuming's.
5092 Juanulloa, large green-flowered.
5144 Lælia, yellow-flowered.
5145 Momordica, large-flowered.
5132 Monochætum, sword-bearing.
5109 Nepenthes, ampullaceous, or Pitcher-plant.
5142 Pentstemon, red Valerian-leaved.
5100 Phyllocactus, angle-stemmed.
5105 Plectocomia, Assam.
5134 Poppy, rigid tree.
5129 Rhododendron, Dr. Kendrick's; broad-leaved var.
5146 ——————— Mr. Nuttall's.
5120 ——————— Sir James Smith's.
5125 ——————— Mr. Shepherd's.
5116 ——————— Wilson's (a hybrid).
5136 Rhipsalis, sarmentose.
5140 Richardia, spotted-leaved.
5152 Sasanqua; Anemone-flowered var.
5104 Sonerila, pearl-spotted.
5091 Spathodea, bell-flowered.
5151 Spiræa, Douglas's.
5143 Spraguea, umbellate.
5121 Stangeria, the Fern-leaved.
5153 Statice, Bourgeau's.
5111 Stephanophysum, Dr. Baikie's.
5094 Tachiadenus, keeled.
5128 Thorn-apple, yellow-flowered.
5124 Thunbergia, red-flowered.
5108 Vriesia, parrot-flowered; red-bracteated var.

INDEX,

In which the Latin Names of the Plants contained in the Fifteenth Volume of the THIRD SERIES (or Eighty-fifth Volume of the Work) are alphabetically arranged.

Plate.
5138 Aerides Wightianum.
5139 Areca sapida.
5113 Angræcum sesquipedale.
5122 Agave maculosa.
5097 —— Jacquiniana.
5107 Begonia xanthina; var. *Lazuli.*
5101 ——— Rex.
5102 ——— xanthina; var. *pictifolia.*
5114 Bilbergia macrocalyx.
5133 Brachychiton Bidwilli.
5147 Bryophyllum proliferum.
5095 Chrysanthemum carinatum; var. *pictum.*
5152 Camellia Sasanqua; var. *anemoniflora.*
5150 Cattleya Schilleriana; var. *concolor.*
5118 Columnea scandens.
5154 Calceolaria flexuosa.
5127 Ceanothus Veitchianus.
5135 Cheirostemon platanoides.
5126 Cymbidium eburneum.
5149 Dissotis Irvingiana.
5099 Dasylirium Hartwegianum.
5134 Dendromecon rigidum.
5106 Dipteracanthus calvescens.
5156 ————? Herbstii.
5128 Datura chlorantha; *flore pleno.*
5130 Dendrobium albo-sanguineum.
5103 Epigynium leucobotrys.
5117 Æsculus Indica.
5131 Æschynanthus cordifolius.
5141 Evelyna Caravata.
5096 Fuchsia simplicicaulis.
5123 Gynura bicolor.
5115 Gesneria purpurea.
5019 Goldfussia Thomsoni.

Plate.
5155 Gutierrezia gymnospermoides.
5148 Hoya Cumingiana.
5098 Hibiscus radiatus; *β. flore purpureo.*
5110 Howardia Caracasensis.
5092 Juanulloa eximia.
5144 Lælia xanthina.
5112 Linum pubescens; *β. Sibthorpianum.*
5145 Momordica mixta.
5132 Monochætum ensiferum.
5137 Myosotidium nobile.
5109 Nepentes ampullaria.
5142 Pentstemon centranthifolius.
5100 Phyllocactus anguliger.
5105 Plectocomia Assamica.
5136 Rhipsalis sarmentacea.
5146 Rhododendron Nuttallii.
5129 ———— Kendrickii; var. *latifolium.*
5125 ———— Stepherdii.
5116 ———— Wilsoni (*hydridum*).
5020 ———— Smithii.
3140 Richardia albo-maculata.
5093 Sanseviera cylindrica.
5091 Spathodea campanulata.
5151 Spiræa Douglasii.
5143 Spraguea umbellata.
5153 Statice Bourgiæi.
5111 Stephanophysum Baikiei.
5021 Stangeria paradoxa.
5104 Sonerila margaritacea.
5094 Tachiadenus carinatus.
5124 Thunbergia coccinea.
5108 Vriesia psittacina; var. *rubrobracteata.*